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EXTRACT

From an Act prescribing Rules for the Government of the State Library, passed March 8th, 1861.

SECTION 11. The Librarian shall cause to be kept a register of all books issued and returned; and all books taken by the members of the Legislature, or its officers, shall be returned at the close of the session. If any person injure or fail to return any book taken from the Library, he shall forfeit and pay to the Librarian, for the benefit of the Library, three times the value thereof; and before the Controller shall issue his warrant in favor of any member or officer of the Legislature, or of this State, for his per diem, allowance, or salary, he shall be satisfied that such member or officer has returned all books taken out of the Library by him, and has settled all accounts for injuring such books or otherwise.

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The Turbine Water Wheel in the Foot-Hills.

THE BODINE JONVAL TURBINE.

Economical power, in a land whose capabilities are so vast and suggestive ae those of California, in connection with our steadily developing manufactnres and incrcasing commerce—not to mention its particular relation to the present leading intereste of the foot-hills, which are serving to plant others that will be more permanent—becomes a question of an attractive character in a general way. Like the rich valleys which were but recently passed by as worthless, now blooming like the rose, so *power*, and the conditions attending its favorable application to supplying the world'e dcmands, is undervalued, or overlooked; it is passed by without the bestowal of a thonght upon the matter, because we do not realize sufficiently that conditions, snch as the cost and facility of transportation, the price of labor, and the extent of the goverving commercial demands, are chauging materially, and not by any means slowly, under our eyes.

Mining in the foot-hills will never fall oft snddenly; it ie evident that eveu deep placer mining mnst last profitably for centuries. In view of the sitnation of California, of the Pacific world, and of our incomparable advantages of climate and water-power and the delightful natural surronndings presented by the foot-hills for nestling thriving mannfactnring villages and comfortable popnlations, where every laborer shall literally rejoice under his own thrilty vine and fig tree, and where the skies are as pnre and bright as those of Italy, it eeems strange and unaccountablo, thongh fact it is, that rich lands, and picturesque oak-glades, reminding of English parks, in the vicinity of green valley nooks having abundant streams, should remain lying worthless, or be held to-day at only a few dollars an acre, within twelve hours travel of San Francisco.

Steam aud cheap coal ncar tide water, may offer greater indncements at preseut for the location of a limited number of mannfactnring enterprises whilc transportation is an item against the foot-hills; bnt the future, whether far or ncar, is defiuitely foreshadowed.

With the turbine water wheel the preliminaries to obtaiu power cost little or nothing; several hnndred dollars is all the capital that is required to furnish that which will set any kind of machinery in motion. A wheel 3¼ inches in diameter,—that may bo carried in the pocket,—with 100 feet head, will give one-horse power; one of five or six inches diameter will give eight to ten-horse power; a 9 inch turbine, with sixty inches of water and 100 fcet head, will give 16-horse power at 38 revolutions a minnte. The cost of a turbine that will run a 20-stamp mill, (abont 23-horse power,) with 62 feet of water is $250, and of the pipe for the same, from $1.50 to $3. To inaugurate wooden ware, turniug, or fnrnitnre factories, a small outlay, with favorable transportation to market, wonld be the only nccessary conditions.

Respectable honses and generous home comforts are still too rarely found in California, yct there are great improvements being made. Hundreds of little articles of use and ornament,—carpets, and other textile wooden and iron fabrics, snch as machincry and local production can present cheaply, are already employing a considerable proportion of the laboring popnlation of the State, thongh hitherto confined for obvions reasons, mainly to the vicinity of San Francisco

To give an idea of the simplicity of the turbine, and its adaptation to small qnantities with a great fall of water, the two accompanying illustrations, being perspective and sectional views of Bodine'e Jonval turbine, will serve onr purpose. The turbine is fitted into a tnbe, box or "penstock," where the water, in paeeing forcibly

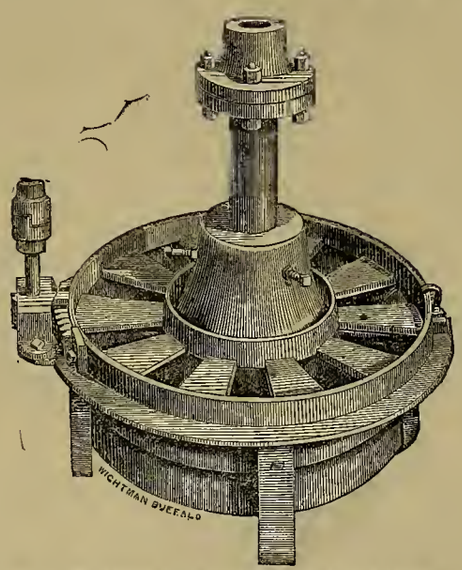

Fig 1—PER PECTIVE VIEW OF THE BODINE WATER WHEEL.

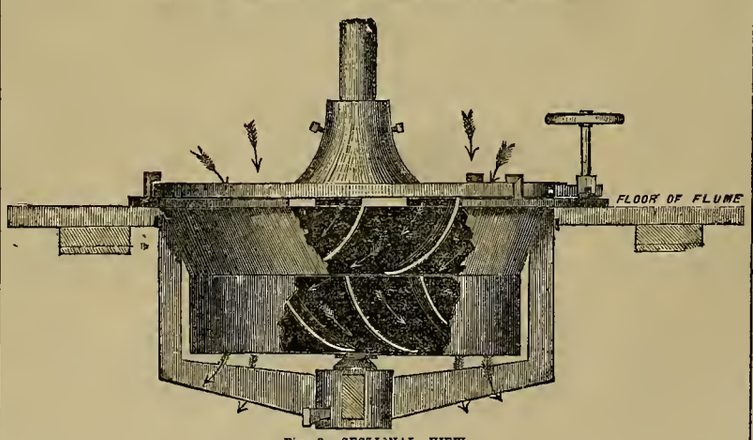

Fig. 2.—SECTIONAL VIEW.

down mnst pass through it, in a manner precisely the reverse of the steamer propeller—the water moving the propeller, instead of the latter moving against the water. Fig. 1 exhibits the appearance of the complete instrument, as looked at from the ont-side; fig. 2 shows the relations of the upper and stationary part to the lower and moviug half; the white lines represeuting the buckets, or shovels, to which the flow of water has to accommodate itself, and the arrows showing the direction taken by the water, which forces the lower half and its connected axle, to turn.

Regarding the different kinds of water wheels and water engines in use- the over-shot, the under-shot, the breast halfway-between these, and the turbine, are the common ones; all of which are modified by a great variety of shapes as to the shovels or buckets used; in which the primitive principle, however, remains the same. Amongst the turbines that of Fourneyron, the inventor, was the earliest, but it has been superceded by numerous others.

The Bodiue Jonval wheel, here represented, is manufactured in Westfield, Massachusetts, by the Bodine Company, a new association. With some of the gentlemen composing the compauy, we are persoually aeqnainted. They are represented on this coast by Messrs. Fuller & Co., No. 109 Montgomery street, who are just introdncing the wheels into this field.

The proprietors make the following claims for their wheel:

That for all positions aud under any head of water, it ie better adapted to drive machinery than any other kind of wheel in nse.

As the water enters in a direct line of the wheel's rotation, we avoid the lateral presenre and friction against the cnrb, to which other wheels are snbject, hence it will give out a greater amonnt of power with the same qnantity of water, than any other wheel ever inventcd.

It has the advantage of using every inch of the head or fall of the water, and is not effected by frost in any way.

The water can be ehnt off at any time, and the wheel left dry for repairs or for the removal of accidental obstructions.

Our wheel is so constructed that the head and fall of the water produces no weight npon the step; the tendency of the water is to raise the wheel which prevents the step from wearing, and overcomes much friction to which other turbines are snbjected. Our steps and followers are made of lignnmvitæ. Wo had wheels rnnning under high heads, for nearly two years, in which the step has not run down a particle. If after long usage the step shonld wear down, it is but the work of a momen' to raise it to its original position.

The wheel is cast in one piece, by a new process peculiarly designed for the purpose, making it a strong, smooth and perfectly balanced wheel.

They are made in the most snbetantial manner, of iron or brass; greater weight of metal is used than is customary with other builders, consequently greater strength and dnrability is obtained.

The wheel is held to its proper place at all times, by a bridge trec above and below, secured firmly to the case of the wheel.

We have a new adjnstablo step upon which the wheel rests, by which the hight of the wheel is regulated to the case, so there will be no loss of water by leakage.

In our next number we shall continue the subject of turbine and water wheels, speaking more particularly of other wheels in use.

WHITE PINE.—Edward B. Dorsey, M.E., who has just returned from White Pino, reports that a careful examination of the ore deposits there, convinces him fully of their closo similarity in character to the mines with which he was formerly connected at Chañarcillo, Chili; except that the several veins which he has been able to recognize as such, are contact veins, and that they contain a good deal of quartz in the gangue.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

The Freligh Milbank Mines, Dutchess County, N. Y.

Editors Press:—I visited, Dec. 1st, in company with a party of scientific and practical quartz operators, the Freligh Milbank mines.

These mines are situated on the Murtch Farm, in the township of Rhinebeck, Dutchess County, N. Y., between three and four miles easterly from the village of Rhinebeck, and about six miles from Rhinecliff railroad station, on the Hudson River. The region is hilly, or mountainous, and in line with the Appalachian range, to which it evidently belongs.

These mines, thus far developed, consisting of four nearly or quite parallel lodes, I traced by their outcrops something over a mile, and I am informed by Dr. Edwin G. Freligh, their discoverer, Dr. J. G. Pohle, geologist and chemist, and Col. J. C. Lane, mining engineer and geologist, that they have traced them a distance of over forty miles, and that thus far they maintain their parallelism and distinctive features respectively.

On one of these veins, the Hudson, an opening sixteen feet long, wide as the vein, and twenty feet deep, has been made. The strike is N. 25° E., dip about 60° E., thickness, at right angles to the dip, fourteen feet ten inches. The veinstone consists of cellular quartz alternating with thin layers of slate rich in iron pyrites.

The quartz, unlike the "*boulder formation*" (so-called on the Pacific Coast), is fine and delicate in its crystalline structure, much resembling that of the better portion the Oneida, Eureka, Keystone, and Spring Hill quartz veins of California. The cavities in the quartz of the Hudson lode are, for the most part, filled with the oxide of iron, the result of the decomposition of the sulphides of iron. The salvage or "gonge" between the lode and "foot-wall," is distinct and regular, and about an inch thick. The wall rock on both sides of the vein is a talco-argillaceous slate. The surface of the earth for at least a mile and a half along the descent from the mine toward the river, is of a reddish-brown color, and is strewn with float or fragmentary quartz, varying in size from the grain to that of a foot in diameter.

The survey shows a point at the opening to be seven hundred feet above the river. Dr. O. P. Southwell, of California, and myself broke off about thirty pounds of the rock near the bottom of the opening and three feet from the foot-wall. We gathered about a pound of the decomposed material underlying this rock, which was hastily washed in a prospecting horn by Mr. J. A. Sperry, a thorough, practical miner. The result was highly satisfactory, showing many particles of gold visible to the naked eye. A small piece of rock taken from another place in the opening, was pulverized and washed, and several minute particles of gold obtained. I was shown the certificates of Messrs. Secor, Swan & Co., and other competent and responsible metallurgists, who had worked several tons of the rock from this lode. The lowest yield by amalgamation was $11.38 per ton—the average upwards of $20 per ton. Assays by the same parties, also by Dr. Torrey, of the U. S. Mint, present a still better showing. From the data obtained I can but conclude as follows, viz:

First—That the Hudson lode is a true fissure vein.

Second—That the rock is in large quantities, and can be mined at a low cost.

Third—That it is a gold-bearing vein sufficiently rich in gold to be worked with profit.

Fourth—That the rock can be worked to advantage by amalgamation.

Fifth—That the water on the premises is convenient and abundant for steam, milling and amalgamation, on a large scale.

Sixth—That the grounds near the opening mentioned are favorable as to elevation and declivity for quartz mill purposes.

Such, I understand and believe, are the convictions of each one of the party who visited the mines with me.

Dr. Southwell, a man of sound judgment, scholarly attainments and great practical experience in all the departments of mining and treatment of ores, authorizes me to say that he fully indorses the conclusions to which I have come.

As to the other veins mentioned parallel with the Hudson lode, I will simply remark that their heavy outcrops indicate large lodes, and that wherever they have been broken the rock looks well, and, as I am advised by Dr. Pohle, contains gold.

As to the discovery of these mines, the facts are, substantially, that in 1859 Dr. E. G. Freligh the younger, then a medical student and a lover of geological science, much questioned the theory of the day, in reference to the non-existence of gold in this vicinity. He seized upon these facts: 1st. That the geological formation was similar to that of the Appalacian range north and south of the region in question. 2d. That the color of the soil indicated mineral deposits. 3d. That the "*float rock*" or fragmentary quartz strewn over the ground was significant of a "Mother Vein" in the vicinity.

Possessed of these data, he vigorously pushed his explorations until rewarded by the discovery of the vein, or rather system of gold-bearing veins, above described.

Saying nothing of the honor due Dr. Freligh, the discovery at least is a proud triumph of science, and one promising great wealth to the owners of the mines, and incalculable benefits to the country.

P. M. Randall.

New York, Dec. 3, 1868.

The Magnetic Sand-Separating Machine.

Messrs. Editors.—I have read in your paper of Dec. 12th, a description of the Metallurgical works of J. Mosheimer, of this city: Of his furnace for reducing magnetic iron sand; also an invention of a machine said to have been invented by Mr. Mosheimer, for separating the fine magnetic ore from the common sand. With due respect to your statement and proper defereuce to your informant, I will state that Mr. Mosheimer is not the inventor of this magnetic separator as described. I claim to be the inventor of that principle, and have in my possession a small model machine, made about five years ago. Many of my friends have witnessed the operation of my machine, and now insist upon my requesting this correction. I would state that about three years ago I had some connection with Mr. Mosheimer, and other gentlemen in constructing a furnace to reduce magnetic oxides. I furnished the plans and Mr. Mosheimer executed the work, and during this time and in presence of one of the gentlmen interested in the furnace, I explained to Mr. Mosheimer my principle and plan for separating the ores, the same as you have described in your paper. Since Mr Mosheimer's return from Europe, as the representative of the State of California to the World's Fair, his mind has been so occupied and time taken up in giving instructions upon the various modes of treating metals that probably he has forgotten the source of his information in relation to the Magnetic Separator. J. H. White.

San Francisco, Dec. 16, 1968.

Ventilation in the Depths.—The miners are obliged to put up with extreme heat and inefficient ventilation in some of the deep workings at Virginia City, notwithstanding the use of blowers to a limited extent. The *Safeguard* says: We understand that the employés in the Bullion incline have about concluded that they are extremely liable to bring out at any moment in a Chinese tea field. Heretofore, and all along until within the last day or two, the rock in the bottom of the incline has been dry and hot almost beyond endurance, but now water is exuding through small crevices at the bottom, and most wonderful of all, a current of air escapes at the same point, with sufficient force to blow out the workmen's candles if allowed to come in contact with it. The miners never think of going down the shaft now without being provided with all the latest maps of China; so that if they should strike through and bring up in the interior of the Celestial Kingdom they will be able to find their way back to the sea coast.

[Written for the Mining and Scientific Press.]

Nevada Silver Ore Deposits—White Pine.

Having recently visited the new district of White Pine, in southeastern Nevada, I am enabled to give you my opinion concerning that interesting country. The principal mines now attracting so much attention at home and abroad, are those located on what is known as Treasure Hill, and although I have made a critical examination of the country about this hill, for a distance of forty miles, I shall have no time at present to refer to anything but Treasure Hill.

The town of Treasure City, and the principal mines located on Treasure Hill, are elevated close to 9,000 feet above the sea-level, and the summit of the mountain rises gradually to the hight of nearly 2,000 feet above the level of the valley, which surrounds, and makes this almost an isolated peak, differing in some respects in formation and character from the adjacent mountain ranges; the surrounding country, and even the top of the mountain, bearing unmistakable evidence of having at no remote period been covered by water.

As far as I have been able to study it, the chief mountain formation belongs to group 2, it being a conglomeration of lime and calcspar filled with crystals of carbonate of lime and chalky argillaceous earth, carrying very large and irregularly defined veins, with extensive ore beds, evidently lying horizontally from the hanging to the foot-walls, resembling in many respects some of the principal mines of Chili and Peru.

The most noted mines at present opened, are the Eberhardt and Keystone Consolidated, the Hidden Treasure, Aurora, and Virginia, all opened to some extent, but especially the former, which is principally explored by two vertical shafts, one being down seventy-five feet near the foot-wall, and the other near the hanging wall, being down sixty-five feet. A 30-foot level has developed the vein from one main wall to the other, proving beyond a doubt, an almost continuous mass of extremely rich chloro-bromide of silver ore. The Eberhardt vein has a width between the main walls varying from 150 to 200 feet, where explored, and I entertain not the least doubt but that the ore will be found to a considerable depth, equally as rich and extensive as in the 30-foot level, and near the surface.

My experience in other mining countries enables me to make the following brief deductions, concerning the Treasure Hill mines:

First—The chief productive veins will be found to run nearly S. W. and N. E., with underlay invariably coincident with the formation of the country or mountain rock.

Second—The veins may be classed as segregated veins of large extent, with ore deposits likely to lie at varying distances horizontally from hanging to foot walls, and in the manner of the *stockwerk*, or layer deposits of the chief silver and copper mines of South America.

Third—It is most likely that if the formation at a greater depth changes from the present into porphyritic greenstone or slate, that these strata will be found barren, and that the limestone or dolomitic formation only will carry rich ores.

Fourth—No water is likely to be found to a considerable depth, and the veins are likely to carry richer ores down to the depth of 500 feet, than may be expected below that point; and no doubt the chloro-bromide of silver ores will change somewhat as depth is attained, into the compound sulphurets, arseniurets and native silver.

Mining Engineer.

New Defenses of the Scheldt.—A combination of forces, applied to purposes of war has lately been made the experiment at Antwerp with a view to the defense of the passes of the Scheldt. Torpedoes are placed in the river, and cameras similar to those used by photographers are adjusted, so that an object directly over one of them will present its image in the instrument situated upon the shore at any convenient distance. As soon as the image of an approaching hostile vessel appears in the camera, an electric current is sent through a wire to the torpedo which underlies it, and the explosion takes place.

[Written for the Mining and Scientific Press.]

Mining in Placer County.

Editors Press:—Since my last letter to you, I have been to the district where is located the

CHAMPION LEDGE,

spoken of in the letter referred to. There are now being made preparatious for building a mill upon it. This is decidedly a good district for gold-bearing quartz. There are several ledges in close proximity that will pay well, from the prospects that were obtained while I was there; but the Champion is apparently the "Mother Vein," as it carries the characteristic peculiarities of all of them, and I judge that it will prove in future a material source of wealth, considering its situation and locality.

GRAVEL MINES.

Regarding the mines close about here, the Jehosephat claims have just finished the first run for the season, and are cleaning up profitably. The Uncle Sam, on Cañon Creek, has been running with good results all summer. The cement mill is progressing to completion. There are a number of gravel claims running and doing well. The miners generally are busy fixing up for the coming water, and we expect lively times here as soon as there is plenty of water.

AN ANCIENT CHANNEL.

I wish to call attention to an old channel that runs east and west (apparently) along the main ridge above this place. There are several break-outs from it, in many places where there are quantities of quartz gravel that prospects well, but owing to a heavy, broken mass of scoria being deposited upon the top, it does not pay well to wash the whole of it. In the main ridge, in my opinion, there is as rich a lead as has ever been struck in California. There are many evidences of this; one is that the gravel shoved out upon the vein rock is rich, and it is under the broken fragments of scoria, a solid stratum of which covers the entire ridge for miles. When this is opened it will be very extensive. It will take some tunneling, but the work will be done, and I think that a joint stock company might employ capital in this locality to as good purpose as at any known place in the world. That this has been one of the main channels of ancient times, is shown by the deposit of scoria having filled the depression of the surface for several miles in width. If it is ever fairly opened, there is ground enough for thousands of men to work above Dutch Flat for the distance of twelve miles. This country is not prospected for the reasons named, no tunnels having been run into the main channel; however, in the streams at the foot of these breaks large amounts of gold have been taken out that I know of.

I will send you some samples of our quartz from this section, and you may comment upon it if you like. When I inform you that this old channel has worn deep through these ledges, you will, I think, agree with me that there must be an abundance of gold deposited in the bottom of the main channel. A. E. R.

Dutch Flat, Dec. 17th, 1868.

To Silver-coat Cotton and other Fibrous Material.—We find the following among the "Answers to Correspondents" in the *American Journal of Mining:* All animal and vegetable substances may be silvered by means of the two following solutions: No. 1 is composed of quicklime 2 parts; grape sugar or honey, 5 parts; gallic acid, 2 parts; water, 650 parts; filter, and keep in well-stopped bottles. No. 2 is composed of nitrate of silver, 20 parts; liquid ammonia, 20 parts; pure water, 650 parts. In order, now, to silver silk, wool, hair, flax, cotton, and other fibrous material by means of these solutions, they are first plunged for a short time into a saturated solution of gallic acid, and then into a solution of one part of nitrate of silver in 50 parts of water. This alternate plunging is repeated till the first black appearance of the substances gives way to a slight metallic luster; then the substance is ready to take the silver coating. To produce this, plunge the substance into a freshly-prepared mixture, in equal parts, of solution No. 1 and No. 2, and leave it until it is thoroughly silvered, after which it is boiled in a weak solution of salts of tartar, and dried.

Mechanical.

HEATON'S PROCESS AGAIN.—We have more than once spoken of the Heaton process for making steel from low class iron by means of nitrates; and have once referred to Prof. Miller's favorable report upon it. In *Engineering* for Oct. 30th, we find a page containing *four articles*, the writers of which, one after the other, indulge in a quiet "dig" at the "process," and which articles tend to put a different color upon the whole affair. The first laughs at the "Solon,"—as the writer calls him,—who insists that the Heaton is to supersede the Bessemer process, and that the result of the operation is *malleable iron of the purest quality, containing* 1.830 *per cent. of carbon!* The second article says that the Heaton process does essentially the same thing that the puddling process does, but not as well. The third shows that it would cost considerably more to make steel by this process than by any other;—and that the article made is not so good after all. The fourth of these articles is by a writer who himself took out a patent in 1860, which involves, as he claims, Mr. Heaton's of 1866; and adds that the lawyers will have to decide the matter. Worse than all, an editorial in the same number of the journal aforesaid, says that the use of nitrate of soda has been open to all since the lapse of the patent of Sir Francis Knowles, taken out in 1857! In the same journal again is reprinted a paper read by Mr. John Gjers, before the Cleveland Institution of Engineers, in April last, in which, after alluding to the experiment of Mr. Hargreaves in the same direction, the author says: "We can come to no other conclusion than that the nitrate process, as at present carried out, is a fallacy and a deception." It would appear, therefore, that the Heaton process is by no means likely to carry everything before it.

THEORY OF PUDDLING.—It has been generally assumed, that in puddling, the oxygen of the air from the draught combined with, and thus removed, the impurities contained in the iron,—such as silicon, carbon, etc. But in the paper recently read by Mr. Siemens, before the British Association, to which we have before referred, he asserts that he found the same effects produced with a perfectly neutral flame—that is, one with no excess of oxygen. He therefore concludes that the oxygen required is furnished by the fettling itself,—which is oxide of iron introduced to form a slag. This he considers to be proved by the fact that some of the fettling is reduced in the operation. The weight of wrought iron produced was fully equal, he says, to that of the pig employed.

BOLTS AND NUTS.—We gave a short time since the uniform system proposed for screw-threads. Here is the uniform standard for bolt-heads and nuts, which was recommended in December, 1864, by a committee of the Franklin Institute: "The distance between the parallel sides of a bolt-head and nut, for a rough bolt, shall be equal to one and a half diameters of the bolt, plus one-eighth of an inch. The thickness of the heads, for a rough bolt, shall be equal to one-half the distance between its parallel sides. The thickness of the nut shall be equal to the diameter of the bolt. The thickness of the head, for a finished bolt, shall be equal to the thickness of the nut. The distance between the parallel sides of a bolt-head and nut, and the thickness of the nut, shall be one-sixteenth of an inch less for finished work than for rough."

MECHANICAL EXHIBITION IN LEIPSIC.—In May of the present year, 1869, will be held an exhibition of machines "pertaining to mills, bakeries, and husbandry connected with such," under the direction of the Association of German Millers. All interested in mills in the United States are invited to take part.

THE BRIDGE ACROSS THE CHANNEL.—*Engineering* heads an article upon the projected bridge from Dover to Calais, "PONS ASINORUM;" and in allusion to the projector, M. Boutet, says:

Some six or seven years ago, we remember reading a leader in *L'Independence Belge*, in which the dawn of a new era was announced. Locomotives and steamboats were to be disposed of as old iron, coal was to be employed for domestic purposes alone, the steam horse was to be sent finally to grass, since we had but to retrace our steps to find that in the passage of the two primitive elements, air and water, from one india rubber bag to another, sufficient force was developed to make the world, or anything else, revolve as fast as the most go-ahead Yankee could desire. The benefactor of our species, then as now, was M. Charles Boutet.

We add a portion of the conclusion of the article: "We have given much space to investigate the project and criticise the projector with the vain hope of finding on grain of sense to leaven the whole mass. But the very magnitude of M. Boutet's projected bridge, as shown upon his fairly executed drawings, will take with many, and we ourselves have seen an audience of more or less influential men impressed by the projector's well conned, oft-repeated lecture, run off the reel as glibly as the rattle of a panorama expositor, and we have heard members of such an audience argue that the constructive details of this fallacy are correct, and that a great new principle of construction has been inaugurated by which powers of resistance are created—another phase of perpetual motion.

THE "SET" OF TWISTED WIRES.—M. Coulomb suspended a ball by a wire twenty inches long, connected with an index which would point out the amount of torsion. He found that when it was twisted ten times, the index returned to its primitive position, if repeated a thousand times, and the oscillations were made in equal times, whether wide or narrow. But if it was twisted *eleven* times, the index did not return to its place, but wanted nearly a whole turn of it. Here, then, the parts of the wire had taken new relative positions, in which they were again at rest. But what was most remarkable in Coulomb's experiments was this: He found that after the wire had taken this *set* (as it is termed by the artisans,) it exhibited the same elasticity as before. It allowed a torsion of ten turns, and when let go, it returned, and after its oscillations were finished, it rested in the position from which it had been taken.—*Prof. Mayer, in Jour. Frank. Institute.*

PRIMITIVE IDEA OF A LOCOMOTIVE.—Sir Isaac Newton, in 1680, figured a spherical generator supported on wheels and provided with a seat for a passenger in front, and a long jet-pipe behind, stating that the "whole is to be mounted on little wheels so as to move easily on a horizontal plane, and if the hole or jet-pipe be opened the vapor will rush out violently one way, and the wheels and the sphere will at the same time be carried the contrery way."

THE longest artillery range on record, viz., 10,301 yards, was attained at Shoeburynese, by Mr. Whitworth's 9-inch muzzle-loader gun of fourteen tons, firing a shot of 250 lbs. with a charge of fifty lbs. This range is 225 yards over that of the 6-inch Lynall Thomas gun, which in 1861 ranged 10,075 yards.

FOR CARS OFF THE TRACK.—Mr. C. H. James, of Canada, has taken out a patent for a machine which he calls the "Dominion Reverse Repeating Rail." It is used for assisting engines and railroad carriages back to the rail. The rail can be carried on every train, and two men can move it to any point required.—*Railroad Register.*

IRON AND STEEL INSTITUTE.—The iron-masters of Great Britain are moving towards the establishment of an Institute "for the discussion of practical and scientific questions connected with the manufacture of iron and steel."

SHARPENING SAWS.—"After filing your saw, lay it on a level board and pass over the side of the teeth with a whetstone until all the wire edge is off the teeth. This will make your saw cut true and smooth, and remain sharp longer. Your saw must be set true with a sawset."—*Cor. Sci. Am.*

IRON PROPS FOR MINES.—An English patent has been taken out for wrought iron tubes, plugged at their ends with wrought iron, to be used as props in mines instead of the timbers generally employed.

Scientific Miscellany.

Occlusion of Hydrogen by Metals.

We gave some time since an account of Mr. Graham's interesting experiments upon this subject. In those the metal plate was heated, and then cooled in an atmosphere of the gas. The *Chemical News* gives, in a recent number, a paper by Mr. Graham, describing a new method of charging the metals with the hydrogen at low temperatures. We give a part of that portion which refers to palladium: "If a plate of zinc be placed in dilute sulphuric acid, hydrogen is evolved from the surface, but none is occluded. But a thin plate of palladium immersed in the same acid, and brought into metallic contact with the zinc, soon becomes largely charged with the hydrogen, which is then transferred to its surface. The charge taken up in an hour by a palladium plate, rather thick, at 12° amounted to 173 times its volume.

The absorption of hydrogen was still more obvious when the palladium plate was constituted the negative electrode in acidulated water to a Bunsen battery of six cells. The evolution of oxygen gas at the positive electrode continuing copious, the effervescence at the negative electrode was entirely suspended for the first twenty seconds, in consequence of the hydrogen being occluded by the palladium. The final absorption amounted to 200·4 volumes, and was greater in amount than the volume of hydrogen occluded by the same plate heated and cooled in an atmosphere of the gas, which did not exceed 90 volumes.

It is worthy of remark that the gas exhibits no disposition to leave the metal at the temperature of its absorption. Thus a thin plate of palladium, charged with hydrogen, was washed, dried and sealed up in an exhausted glass tube. On breaking the tube under mercury after two months, the vacuum was found perfect; but on the application afterwards of a heat of 100°, 333 volumes of gas were evolved.

The occluded hydrogen is readily extracted by reversing the position in the battery, so as to cause oxygen to be evolved on the surface of the metal. The hydrogen is then drawn out as rapidly as it had previously entered.

SEPSIN.—The poison generated in putrefactive fermentation has recently been isolated by Drs. Bergmann and Schmiedeberg, in the form of a crystalline salt which they have named "*sulphate of sepsin.*" The London *Lancet*, says: It is obtained by diffusion through parchment paper, precipitation with corrosive sublimate from an alkaline solution, removal of the mercury by silver, of the silver by sulphureted hydrogen, evaporation, and purification of the residue. Large, well-defined, acicular crystals are thus obtained, which are deliquescent in the air, and, exposed to heat, melt and carbonize. They possess a powerfully poisonous action. A solution containing scarcely more than one-hundredth of a gramme was injected into the veins of two dogs. Vomiting was immediately induced, and after a short time diarrhœa, which in the course of an hour became bloody. After nine hours the animals were killed, and, on examination, their stomachs and large intestines were found ecchymosed, and the small intestine congested.

"IVIGTITE"—A NEW MINERAL.—Theo. D. Rand describes a new mineral for which he proposes the above name, on account of the locality where it is found. It occurs in films and seams through massive cryolite. The color is pale yellowish-green, sometimes yellow. Hardness 2-2.5, sp. gr. 2.05: Fuses rather easily before the blowpipe; with carb. soda fuses readily and with effervescence to a greenish bead. In borax dissolves readily with an iron reaction. In microcosmic salt dissolves readily except silica skeleton; bead yellow while hot, bluish opalescent when cold. In closed tube yields acid water.

DECOMPOSITION OF OIL OF TURPENTINE. Prof. Wurtz, in the *Gas Light Journal*, translates from the proceedings of the Vienna Academy, an account of the experiments of Hlasiwetz and Hinterberger upon the repeated distillation of the products resulting from the subjecting of oil of turpentine to a red heat. Vapors of turpentine were passed through a red-hot iron tube filled with fragments of porcelain. The products were a gas, some carbon (as a mirror-like black crust on the porcelain) and considerable dark brown oily liquid of benzole-like odor, lighter than water. The gas burnt like illuminating gas. One hundred measures of turpentine gave on an average 60 of liquid, and about 16,800 of gas; and the carbon amounted to about 2.3 per cent. of the material employed. The brown liquid distilled with water, gave 81 volumes per 100 of a gold-yellow oil of a much purer and pleasanter smell than before, and a tarry residuum. This rectified product was nearly one-half (in volume), of the turpentine employed. It was dried by fused chloride of calcium, and subjected to fractional distillation.

Prof. Wurtz, says: "It may be doubted whether any field more richly pregnant of results of economical value presents itself to-day to competent chemists, than investigations of the products of various chemical treatments of oil of turpentine and common rosin. * * Chemists will agree in the importance of finding some liquid, cheap and obtainable in abundance, which will vie in solvent power and volatility with the expensive benzole (that is, true coal-tar benzole, not the common cheap petroleum naphtha or "benzine," which is almost universally confounded in commerce with benzole), and that still more expensive, but noble solvent, chloroform."

FOSSIL HORSE IN NEBRASKA.—In the November number of the *American Journal of Science and Arts*, Prof. O. C. Marsh gives a notice of the remains discovered in Nebraske during the past summer, of a new species of fossil horse, very much smaller than any heretofore known. The newspapers, in their first published accounts, described them as human remains. They were found at Antelope Station, on the Union Pacific Railroad, 450 miles west of Omaha, and were thrown out from a depth of sixty-eight feet, during the digging of a well. Some of these remains were described by Prof. Marsh, at the meeting of the National Academy of Sciences at Northampton in August last. "They indicate," says the Professor,—"an animal scarcely more than two feet, or possibly two and a half feet in hight, although full grown, as the ossification of the various bones clearly proves. The species may be named *Equus parvulus*. This makes seventeen species of fossil horses now known to have lived in North America, although until quite recently it was very generally believed that there was none indigenous to this continent."

The bones were found in a stratum of gray arenaceous clay lying nearly horizontally, and apparently of later Tertiary age.

ALCOHOL AS FOOD.—The following is a paragraph from a lecture on food recently delivered by Dr. Letheby before the Society of Arts (England): Liebig is of opinion that alcohol is burnt or oxidized in the system, and is therefore a calorific agent; but the researches of Lallemand, Perrin and Duray, as well as those of Dr. Edward Smith, have demonstrated that a large portion of it passes through the system unchanged, and appears in the breath and perspiration, as well as in the urine. They, therefore, conclude that alcohol is not a food, but is a mere excitor of the nervous centers. On the other hand, Dr. Thudicum in a rather large experiment on the students of his class (33 in number), found that of the 4,000 grammes of alcohol in the 44 bottles of wine which they drank at one sitting, only 10 grammes appeared in the urine; and assuming that about 10 grammes more were exhaled by the breath and skin, he concluded that only 0.5 per cent. of the alcohol escaped unchanged. He therefore believes that alcohol is oxidized in the body, and is a true food.

Geological Survey Map.—A new edition of this excelleut map of the Bay Counties has just been received at Payot's, from the Eastern publishers. Numerous valuable additions have been made, such as the coloring of county boundaries, the marking of roads, etc.; the price being $6.50, instead of $5, as formerly; but the geological formations are not yet represented. As the data are all, years since, in hand, there is surely no good reason why the value of this map should not have been enhanced by their representation in colors. Local geologists would have found the map much more interesting, and the Geological Survey would not have been wanting thereafter for a body of local friends. The only attempt towards a representation of the geological features of California which is at the service of persons taking an interest in the matter,—embracing every citizen in the State, and especially every miner,—is in the little volume of Tyson, dated 1849, which gives an intelligent account of a two-months' reconnoisance up the valley, with maps noting the lithology as observed, and sections representing the relations, dips, extent and profiles of the different formations—across the Coast Range, the valley of Sacramento, and the foot hills, as far up as the granite region of the Sierra Nevada. California and Nevada *must* be mapped, and represented geologically; but the probabilities now are that the principal contributions to that end will have to be made by private enterprise, if not also from private data and resources. The number of observers in California who would be able to contribute to the general knowledge as to local geology and the special characteristics of our mineral deposits, is not small; but neither the Geological Survey nor the Academy of Sciences seem to have quite succeeded in bringing that element to a satisfactory union, or to have associated together the kindred spirits into such active coöperation as might be done, for mutual profit.

Venezuelan Mining.—The mining region between Quito and the mouth of the Orinoco has been one of infatuation for buccanneers and mining engineers, ever since the days of Walter Raleigh. Ancient mythical rumors of a wealthy city hidden in the forests and mountains, where silver and gold are common drugs, still circulate amongst the superstitious. Robert Stephenson, the father of railroad engineering, spent years there in trying to do something for an English Company—and there are still English Companies operating in the country, with what degree of success we are unable to state, except that there is a constant repetition of demands for competent engineers and metallurgists from the older mining districts of Europe, who return, and go to California or Australia. Dr. B. B. Stevens, a New York chemical geologist who recently visited that country, says the veins are not of the richest. His opinion is that the metamorphic rocks invariably yield more gold than any other—a proposition which has been otherwise frequently stated in the common expression that it is in the vicinity of eruptive action where the precious metals are most plentifully found.

Mining Atlas.—Mr. Spargo, of Gresham House, London, is about to publish an atlas of all the chief districts prolific in metals in the world, excepting those which yield iron exclusively, or nearly so. The atlas first depicts Devonshire, Cornwall, portions of Wales, and the Isle of Man. The geological formations of those districts are by a simple plan made obvious at a glance. The leading tin, copper, and lead mines are described as to their operations, quality of ore, prospects, etc., and longitudinal and transverse sections show the character and working of each. The mines of Nevada, Colorado, Idaho, New Mexico, Wisconsin, etc., are mapped out with minute care and accuracy. The railways which connect the Atlantic and Pacific oceans are also represented.

John Mitchell, the Assayer.—Concerning John Mitchell's death, the *London Mining Journal* says: Our readers will regret to hear of the death of John Mitchell, the eminent assayer and metallurgist, which occurred in Valparaiso, on May 11th, under very distressing circumstances. Mr. Mitchell was for sometime a regular correspondent of this journal, and contributed a series of well-written articles on many interesting and important topics, amongst others, as will be in the recollection of our readers especially connected with the iron trade, were several excellent letters, in which he maintained a spirited controversy with Mr. David Mushet a few years ago. During the last year or two he had been engaged in preparing for the press a third edition of his admirable "Manual of Practical Assaying," and we understand had almost entirely re-written the book, introducing all the most recent and improved methods. As the last edition is out of print, we trust his manuscript may be placed in the hands of some one who will bring out the work in a manner in which the reputation of its talented and lamented author will be fully sustained.

The Polytechnic Society which has been organizing at the Mechanics' Institute, is meeting the encouragement and support of the class on whose interest and intelligence its usefulness will in a great measure depend—the practical and scientific artisans, mechanics, miners etc., of this city and State. Another meeting, to perfect the organization, will take place at the Mechanics' Institute on Monday evening, January 14th. The dues have been limited to $1 per quarter. All who intend to sustain the idea of a Polytechnic Society, or to benefit by association with the kind of persons whom it will bring together, can send in their names to the committee—Messrs. A. S. Hallidie, Wm. F. Herrick, John J. Hucks, E. T. Steen, Amos Bowman, and J. H. Culver.

Jacoby's California Staats-Kalender. This is quite a respectably sized volume, of nearly 200 pages, containing, besides its magazine of advertisements, a large amount of interesting reading matter of special value to Californians, or intending emigrants, amongst which the following are original: "A general review of the events of 1868 in California; the agriculture of the State; its gold mining; its railroads; its chief city; the wonders of its scenery; German associations in San Francisco and in Los Angles; the Mechanics' Fair of 1868; and an account of the publishers' trip to Europe and back."

Mining in Placer County.—From "W. H. M.," (dated Auburn, Dec. 14th,) we learn that the Pioneer Mill of six stamps, in that vicinity, driven by water-power, is now running, and doing well. The ledge is located six miles from Auburn; it is eight feet wide, and the shaft is 40 feet down; Mr. J. M. Gallard, being both proprietor and superintendent. The Bald Hill Mill is also going. It has twenty stamps, and is located 3½ miles from Auburn. The ledge is opened eighty feet down, and they are running a tunnel from the surface to the main shaft. Mr. C. Fay is one of the owners. Placer diggings seem to be "played out," and all the talk is about quartz. Welthoy's old steam mill is going and doing well, being engaged on custom work at present. They have just made a clean up for some of the boys that are out prospecting, and it paid from $3 to $35 per ton. "So you see," says our correspondent, "that there is gold in the quartz in Placer County, as well as in Nevada County. I think it will be a big thing."

Perambulating Disinfectant.—A perambulating disinfectant wagon has been making the rounds on Kearny and other streets during the week,—a cask with a small hose attached. The smell of chlorine gas was unmistakable.

The Railroad to the Presidio *via* Sutter street has been completed.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

For the Week Ending December 8th.

84,737.—Improvement in Door Locks.—Chas. Fleischel and Wm. C. Bussey, of San Francisco, Cal.:

The plate K, fastened upon the bolt of the lock, and provided with the wards *c*, *c*, and *c*, in combination with the cylinder B, disk C, and revolving tumblers F, F, substantially as described, and for the purpose set forth.

This invention consists in the construction of an improved revolving tumbler lock, which is especially adapted for use on the outer doors of stores and large buildings in which a secure, and at the same time cheap lock is required. This is accomplished by constructing a case through which is made an opening connecting with the outside and inside, and in which turns a short shaft, which is spread so as to form a disk inside the case. Two plates rise from the inner surface of this disk, and between these plates are placed a number of tumblers, consisting of elongated metal plates, having slots in one end at various depths from the bottom of the case, through which the wards pass when they are in a line, caused by the introduction and turning of the proper key.

The bolt passes through the side of the case which supports and guides it. Within the bolt forms a flat bar which extends along the bottom across the case, and has a slot in it. A screen passes loosely through this slot and into the side of the case, and thus guides that end of the bar, so that the bolt moves freely without any tendency to bind.

A steel plate is fastened to the bolt inside the case, and has its edge formed into wands corresponding to the number of the tumblers. The disk on the inner end of the tumbler shaft, has an arm projecting from one side, which enters a slot in the extension of the bolt, and thus moves the bolt.

On the other side of the case is a bent arm pivoted at one end and having a point at the other which enters a hole in the bolt to prevent its being moved when drawn back, and by an equivalent device prevents its being withdrawn after being shut out. The bent arm is operated when the key is introduced and turned, by an arm or lug which projects from that side of the disk, and raises the arm sufficiently to allow the bolt to pass, after which it drops into place again.

84,742.—Improvement in Ship's Davits. Seth Gill, of San Pablo, and David C. Woods, of San Francisco, Cal.:

1. The jointed davit-arms E, E, with their tackle, or an equivalent device, the whole constructed and operated substantially as and for the purpose herein described.

2. In combination with the jointed arms E, the traveler L, with its in-haul and out-baul tackles M and N, substantially as described.

3. In combination with the davit-arms E, the uprights D, with the lifts H, and stanchion I, the whole connected by rods with the davits on the opposite side, substantially as and for the purpose herein described.

The object of this invention is to provide an improved device for handling the small boats connected with a vessel so that they can be launched at the shortest notice in an emergency, while they are securely placed when not in use. This is accomplished by a peculiar construction of the davits so that the suspended boat moves by means of travelers operated by the necessary tackle from its position when not needed, to a sufficient distance from the ship's side to ensure its safety in lowering. The davits are also so constructed that when coming into port or whenever desired, they can be instantly turned so as to leave the ship's side perfectly clear and smooth with no projections. They are also attached to davit uprights or standards which pass through the decks and into the plank shear. The standards on opposite sides of the vessel are connected at the top by stay rods with a turn-buckle between so that the strain is rendered much less than in ordinary constructions. An illustration of this device may be expected in a future number of the Press.

84,748.—Improvement in Gang Plows.—Francis McTarnahan, of Santa Clara, Cal.:

1. The frame or ground work of the gang plow.

2. The combination and arrangement of the beam R, to which the plows are fastened, the beam to which said plow-beam is fastened by hinges, the semi-circular hinges, as constructed, and the manner of fastening the plows in the beam, all as shown.

3. The screw-slides A, in combination with the frame.

4. The combination and arrangement of the beam L, to which the lever is fastened, the post on which it works, the chain, the pulley on which it works, the evener and the guard, all as described.

5. The square block D, under the axle-tree, for regulating the amount of land, in combination with the evener.

6. The construction, combination and arrangement of the several parts, as shown and described.

84,778.—Automatic Stop for Mining Cars.—James Tamblin, of Virginia City, Nev.:

The projections or stops E, E, arranged with the levers C, F, and spring H, connected with the chain G, and all applied to operate in the manner, substantially as and for the purpose herein set forth.

New Incorporations.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

Chloride Flat and Aurora Tunnel Co.—White Pine, Nev. Dec. 24th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: A. E. Head, Mark Livingston, W. B. Thornburgh, I. N. Taylor and R. F. Morrow.

Continental Silver M. Co.—Dec. 24th. Capital stock $5,000,000; 10,000 shares, $500 each. Trustees: H. H. Blake, A. F. White, B. F. Bivens, W. B. Swain and Caleb T. Fay.

Kimball Manufacturing Co.—San Francisco. Dec. 24th. Capital stock, $500,000: 5,000 shares, $100 each. Incorporators: Geo. C. Kimball, R. D. Ogden, W. C. Ralston, A. Hayward, H. B. Tichenor, McPherson & Wetherbee, A. P. Hotaling, Rosenfield & Birmingham, A. B. Forbes, E. Cahill, Koopmanchap & Co., Louis McLane, Chas. McLeau, Oliver Eldridge, Thos. H. Selby, Meeker, James & Co., John Parrot, DeWitt, Kittle & Co., Wm. Burling, C. J. Brenham, James D. Walker and W. F. Babcock.

Flowery Kingdom M. Co.—Story Co., Nev. Dec. 28th: Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: A. H. Barker, Chas. Hosmer and O. S. Carville.

Montgomery Street Real Estate Co. San Francisco. Dec. 29th. Capital stock, $7,500,000; 75,000 shares, $100 each. Trustees: Jno. D. Fry, Leonard S. Treadwell and Ashbury Harpending.

Election of Officers.—Gould & Curry S. M. Co.—President, Alpheus Bull; Trustees, Alpheus Bull, Thos. Bell, J. D. Fry, A. K. P. Harmon, M. Morganthan, A. Hayward and Thos. Sunderland.

The North Star G. & S. M. Co. have filed the necessary papers for an order to allow them to disincorporate the company.

Patent Turbine for Sale.—The patent right for Leffel's American double turbine wheel for the Pacific coast, is offered for sale in our advertising columns. This wheel is largely in use in the Eastern States, and has been highly recommended in this State.

The Annual Meeting of the California Academy of Sciences will take place on Monday evening, January 14th, when the officers for the ensuing year will be elected.

Religion is a good thing; Benevolence is a good thing; Politics are a good thing; War is a good thing; Money is a good thing; Pestilence and Famine are good things, and it is so with a hundred other matters with which we at times imagine we are cursed or blessed. Hard as these afflictions may seem, they all result in good, one way or another. It is particularly so with Plantation Bitters; but they must be used with moderation, and according to the directions. You must not abuse or indulge in them too freely. If you do, like other blessings, they will do harm by an over-indulgence or abuse. *

To Scientists.—The museum of natural curiosities at Woodward's is well worth an examination by every lover of nature, saying nothing of the living animals, the botanical garden, and other attractions. *

Muller's Brazilian Pebble Spectacles, 205 Montgomery street, cannot be surpassed by anything in this line. *

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, January 2, 1869.

City Stocks.

During the past week the sales of miscellaneous stocks, despite the holiday season, have been very considerable. Spring Valley Water stock was in the market to a larger extent than usual, selling at $65@65 50 ₱ share. California Steam Navigation declined from 52½ to 50½ per cent., then sold at 52. A vigorous opposition is being inaugurated by this company against the railroad company, the faro to Sacramento having been reduced to $2. San Francisco Gas stock is in request at an advance, selling at $79, then at $80 50, buyer 30. The usual monthly dividend is now payable. The California Insurance Co. will add Fire to their Marine business on and after the 1st of January. The Pacific Bank disburses its usual monthly dividend to-day. At the close U. S. 5-20s of 1867 sold at 83.

Mining Share Market.

Taking into consideration that we are in the midst of the holiday season, the mining share market has been quite active, large sales having taken place, though, as a general thing, at a slight recession from opening rates. The transactions also embraced a larger list of stocks than is usually offered.

Under the caption of "White Pine, the wonder of the world," the *Alta* comments as follows: Although only about three months have elapsed since the first noteworthy shipment of bullion from White Pine reached this city, that district has already become one of the most populous in the great inland basin of the continent. The number of men now in the vicinity is 3,000 or more, and of these 1,000 are engaged in taking out ore, the quantity extracted daily being about 300 tons, and average value is estimated by one excellent authority at $500 per ton, and by another at $200. A man who worked in a custom mill informed us that he had worked ore from thirty-five different mines, and only two lots out of the thirty-five yielded less than $150 per ton. At $200, the yield of a year counting 300 working days, would be $15,000,000—that as if the supply of ore should not be exhausted. A much greater quantity could be taken out now, but there are not mills enough to reduce what is being extracted, and many of the claim holders make great sacrifices to raise the cash for necessary expenses, and it would be a serious loss to them to pay miners for work from which no income could be derived before next summer. If the deposits are as extensive as they now appear to be, the yield of the district in 1869 will astonish the world. The Eberhardt Company, who own the typical mine of the district, have worked 700 tons which assayed $1,000 per ton, and yielded $850 in the mill—a total production of $595,000 from that one mine alone. They have on the dump and at the mill 600 tons of ore, and they have 500 tons more "in sight"—as rich as that heretofore reduced. Counting the ore reduced, that extracted and that in sight, the Eberhardt is certain to produce at least $1,500,000. They have, however, not gone down more than forty feet, and they have not reached either the bottom, or the eastern or western limit of the deposit. A drift of 184 feet, cut with the meridian, has struck the walls on each side. The Keystone mine, which ranks next to the Eberhardt, has worked 350 tons averaging $700, and has extracted 1,000 more which average $400, making the gross value of the ore produced so far, $645,000. The Robert Emmet has taken out 100 tons and worked 61, of which 20, first-class, assayed $1,215 per ton; and 41 tons of second-class assayed $485 and yielded $341 net. The Stonewall has taken out 200 tons, and reduced 60, which yielded $500 per ton. The South Aurora has out 500 tons that will average at least $150 per ton; the North Aurora is taking out 20 tons per day, worth $150. The Eclipse, a claim that has attracted little attention, comparatively, has been sold to J. D. Winters, the Superintendent of the Yellow Jacket mine, for $35,000. These are only a few out of many. An area two miles wide and six miles long appears to be underlaid by an argentiferous deposit similar to that in the Eberhardt. More than a hundred shafts have been sunk, and nearly all have found the ore within fifty feet, most of them within thirty feet of the surface. Mineral deposits in limestone, which is the bed-rock at White Pine, are ordinarily of small extent and soon exhausted; but the newly-discovered deposit is certainly an exception in regard to its extent. The silver mines of Chañarcillo, in Chili, are in limestone, and they have been worked steadily for thirty-six years and have produced $60,000,000. There, as at White Pine, the lodes near the surface contained large quantities of chloride of silver, which could be mined and reduced at very little expense. Nearly a hundred years ago, a deposit similar in many respects to that at White Pine, was found at Catorce, Mexico, in the Zavala mine, which yielded $7,000,000. Ward says the ore was "a loose metalliferous substance, so completely impregnated with particles of silver that it was bought up at once by the *rescatadores* [amalgamators] at the price of one dollar for the pound." The amalgamators, who were and still are distinct from the mine-owners, in most of the mining districts of Mexico, seldom paid half as much as the ore would yield, so it is fair to presume that the Zavala ore would assay $3,000 or $4,000 per ton, and that is quite up to the average of White Pine. We do not find in any of our books of reference a description of the geological formation at Catorce, but it is said that the richest ores were found in vaults (*bovedas*) or caves, which are common in limestone and rare in other formations. At Guanisamey, in Durango, there was another vault filled with rich dirt-like ore, which yielded a rich profit to Zambrano, one of the most famous miners of Mexico. In twenty-five years he took out $55,000,000. The records show that he paid $11,000,000 tax to the King. The chloride ores at White Pine may not last so long as did those at Chañarcillo and Catorce, but if the testimony of a number of witnesses of good repute is to be accepted, they will certainly prove the wonder of the world for a year or two, and give a great stimulus to business of all kinds on the Pacific slope. Many, however, who abandon their present occupations to go to the new diggings will lose far more than gain.

Gould & Curry—was in the market at $103 @95, and closed at $00. The annual meeting of this company was held on the 28th of December. From the Secretary's report we take the following:

RECEIPTS.

Cash on hand, December 1, 1867	$147,914 15	
Ores sold	43,959 29	
Bullion account—Company mill	29,127 07	
Bullion account—Custom mill	22,108 56	
Materials sold	16,226 76	
Tolls on Virginia and Carson river road	4,130 43	
Ore scales at mine	147 72	
Interest	249 17	
Bills payable	3,875 90	
Cash indebtedness	33,822 09	
		$301,680 24

DISBURSEMENTS.

Mine account	$180,108 52	
Mill account	50,925 30	
Dividend account	3,465 00	
General expense account	17,737 37	
Reduction of ores at Custom mills	15,510 82	
Mill repairs	9,072 57	
Taxes	5,851 38	
Legal expenses	3,268 50	
Bills receivable	8,559 46	
Virginia and Carson River road	4,371 19	
Sundries	3,010 04	
		$301,680 24

The assets and liabilities of the company at the close of the fiscal year are as follows:

ASSETS.

Bills receivable	$18,612 29
Ores, tailings, etc., on hand	51,500 00
Real and personal property—mine	156,823 92
Real and personal property—mill	218,986 27
Boarding house at mine	3,750 00
Reservoir tailings' mill	22,884 61
Assay office, etc	7,711 68
Virginia and Carson River toll road	6,750 00
Office in San Francisco	1,000 00
	$487,923 77

LIABILITIES.

Cash indebtedness, etc	$29,532 31
Bills payable	3,875 00
Dividends uncalled for	535 00
	$33,942 31

Imperial—declined from $115 to $111, and closed at $109. For the month of December, up to the 28th, $23,765 85 in bullion was received. On the 29th ult., the station at the 1,100 level was in seven feet from the shaft, running in the same body of clay as found in the shaft. The winze on the 900 level is down twenty-six feet; in hard quartz with but little water. No change in the Alta mine. They raise about 140 tons of ore per day.

Empire—rose to $130, and at the close sold at $125. In his annual report the President says: "From the recent developments of ore in the Alpha and Imperial mines, on the 900 level, I am hopeful of getting a body of pay ore between our 900 and 1,100 levels."....Kentuck ruled at $240@267, and closed at $257. The receipts of bullion for December account foot up, so far, $53,952 47.

Crown Point—was pretty active, selling at $53@55, and closing at $53. On the 27th of December the shaft had attained a depth of 1,083 feet. It will be carried ten feet below the 1,100 level, which, at the progress they are at present making, will take about a month. The south drift is in 314 feet from the Kentuck south line, the east clay wall continuing to turn to the west. On the 26th of December they had reached a clay wall, which is said to have every appearance of the west clay, in the face of the drift. If it should prove to be the west clay wall, says the Superintendent, it will demonstrate that the walls inclosing the vein are converging going south, and that anything found in the unexplored region between the face of the south drift and the north of the Belcher, will be a new body.

Chollar-Potosi—sold at $150@153, then at $150, and closed at $153. During the week ending December 25th, 1,261 tons of ore were extracted from the mine. The supply is not quite so abundant as heretofore....Overman was in ordinary request, selling at $89 50@83 50, closing at $88. The receipts for December will foot up about $60,000. The Brunswick mill shows a better yield for December than it did the previous month.

Hale & Norcross—has been less active than the previous week, declining from $50 to $44, and closing at $45 50. The workings of this company at the mine have been kept very quiet for the past fortnight or so. We have been unable to obtain anything definite, but should judge from the transactions in the Board that the developments are not any too favorable....Savage—fluctuated between $84 and $78, closing on the 31st December at $78 75....Yellow Jacket advanced to $1,412 50, dropped to $1,366, and closed at $1,450. Information concerning both the Savage and Yellow Jacket chims is very difficult to obtain.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Amador Co., dividend, $6 per share	Payable Dec. 19, 1868	
Adriatic, Storey co.	Annual Meeting, Jan. 4	
Alpha, Storey co., Nev., Dec. 3, $10	Jan. 5—Jan. 25	
Alamo, Lyon co., Nev., Nov. 25, 35c	Dec. 31—Jan. 30*	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Bullion, Storey co., Nev., $10	Dec. 7—Jan. 6	
Crown Point, Storey co., Dec. 18, $7.50	Dec. 18—Jan. 17	
Cherokee Flat, Butte co., Dec. 9, $5	Jan. 11—Jan. 26	
Chalk Mt. B. C. Nevada co.	Special Meeting, Jan. 7	
Chollar-Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12 1868	
Cosala, Sinaloa, Dec. 12, $1	Jan. 15—Feb. 4	
Diamond cop., Del Norte co., Oct. 28, $2	Nov. 10—Jan. 21*	
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M. & M., Nev., dividend $6	Payable May 16, 1867	
Colt Hill Quartz	Annual Meeting Jan. 11	
Gould & Curry, Storey co., Nev., Dec. 5, $15	Jan. 9—Jan. 29	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, div. 50c ₱ sh	Payable Dec. 26*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 11—Jan. 28*	
Hale & Norcross, Storey co., Dec. 12, $5	Jan. 16—Feb. 6	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hope Gravel, Nevada co, Nov 18, $1	Dec. 22—Jan. 11*	
Imperial, Storey co., Dec. 16, $25	Jan. 18—Feb. 4	
Imperial, Storey co, Nev., div.	Payable June 20, 1868	
Jefferson, Yuba co.	Adjourned Meeting Jan. 2	
Kentuck, div., $30 per share	Payable Dec. 10, 1868	
Mohawk & Montreal, Nevada co., Dec. 7, $3	Jan. 10—Jan. 25	
Morning Star, Alpine co., Dec. 9, $2 50	Jan. 11—Feb. 1	
Gould & Amador co., Nov. 13, $2.50	Payable May 15, 1867	
North Star, dividend, $5	Payable Aug. 16, 1868	
Oriental, Sierra co., Nov. 9, $2	Dec. 14—Jan. 2	
Overman Storey co., Nov. 13, $20	Dec. 16—Jan. 4	
Ophir, Storey co., Nev., Nov 9, $3	Dec. 12—Jan. 2	
Peninsula	Annual Meeting Jan. 5	
Pacific Unassessable, div.	Payable June 18, 1868	
Rattlesnake, Yuba co, Dec. 19, $7.50	Jan. 21—Feb. 8*	
Rippon, Alpine co., Dec. 15, $1	Sale Jan. 23*	
Rising Star, Idaho, Nov. 16, $10	January 4—Jan. 30	
Sierra Nevada, Storey co., Nev.	Annual Meeting Jan 11	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
S. F. & Castle Home, Arizona, Nov. 25, 3c	Dec. 28—Jan. 12*	
Savage, Virginia, Nev. dividend, $4	Payable Dec. 12, 1868	
Sand Spring Salt, dividend $1	Payable June 5, 1868	
Sierra Nevada, Nev., Nov. 16, $12.5	Dec. 29—Jan. 15	
Tallulah, Humboldt co., Dec. 14, $17.50	Jan. 29—Feb. 27	
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15—Jan. 2*	
Virginia & G. H. Water Co., Dividend, payable Nov. 20, 1868		
Yellow Jacket, div., $300	Payable Nov. 10, 1868	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Friday Evening, January 1, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 83	83¼
United States Bonds, 5 20s, 1864	81	82
United States Bonds, 5-20s, 1862	82	82¼
Legal Tender Notes	74	74½
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855		
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1863	87½	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co. Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	24	—
Sacramento County Bonds, 6s	72	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	52	53½
Spring Valley Water Co	65	65⅝
State Telegraph Co	25	—
GAS COMPANIES.		
San Francisco Gas Co	—	81
Sacramento Gas Co	—	7.5¾
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	49	52
North Beach and Mission Railroad	63	65
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97¾	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	105	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	20	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	41½	42
Baltimore American	—	—
Belcher	162	165
Bullion, C. H	14	15
Crown Point	52½	53
Cole (Va.)	8	11
Confidence	36	39
Consolidated Virginia	9	11
Chollar-Potosi	150	155
Daney	3	3½
Exchequer	25	26
Empire Mill and Mining Co	125	126
Gould & Curry	99	100
Gold Hill Quartz	65	75
Hale & Norcross	44½	45
Imperial	109	111
Kentuck	265	270
Julia	3	3½
Justice and Independent	3	3⅝
Lady Bryan	19¼	20
North American	2	5
Ophir	87	90
Overman	85	88
Segregated Belcher	8	8¼
Savage	78	79
Sierra Nevada	19	—
Yellow Jacket	1445	1450
Union	—	—
United States	—	—
MISCELLANEOUS MINING STOCKS.		
Amador (California)	235	240
North Star (California)	—	—
Eureka (California)	210	—
De Soto (Humboldt)	—	2
Golden Rule, California	5	—

San Francisco Market Rates.

Wholesale Prices.

Friday, January 1, 1869.

Flour, ₱ bbl	$5 25	@$5 75
Do. Superfine	4 25	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 85
Oats, ₱ 100 lbs	2 00	@ 2 25
Barley, ₱ 100 lbs	2 06	@ 2 50
Beans, ₱ 100 lbs	3 00	@ 3 50
Potatoes, ₱ 100 lbs	75	@ 1 10
Hay, ₱ ton	14 00	@20 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	7	@ 8
DROGUERIES, ETC.		
Sugar, crushed, ₱ lb	17	@ 17½
Do. China	10	@ 12½
Coffee, Costa Rica, ₱ lb	17	@ 17½
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	75	@ 90
Do. Green	60	@ 1 25
Hawaiian Rice, ₱ lb	9	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 50
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	60	@ 75
Isthmus Butter, ₱ lb	40	@ 47½
Cheese, California, ₱ lb	15	@ 21
Eggs, ₱ dozen	60	@ 62½
Lard, ₱ lb	13	@ 14
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	6	@ 8½

Retail Prices.

Butter, California, fresh, ₱ lb	80	@ 85
do. pickled, ₱ lb	30	@ 40
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 45
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	65	@ 75
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	1 25	@ 1 50
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ —
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	75	@ 1 00
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	25	@ 28
Soap, Palc and C. O	7	@ 12
Soap, Castile, ₱ lb	—	@ 20

Pacific Mail Steamship Co's

STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK:

On the 6th, 14th, 22d and 30th of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR JANUARY, 1869.

The following Steamships will be dispatched on dates as given below:

January 6th—SACRAMENTO.....Capt. W. H. Parker, Connecting with ALASKA, Capt. Cray.

January 14th—MONTANA.....Captain A. We

Connecting with RISING STAR, Capt. King.

January 22d—CONSTITUTION.....Capt. Wm. H. Hudson, Connecting with HENRY CHAUNCEY, Capt. Connor.

January 30th—GOLDEN CITY.....Capt. W. F. Lapidge, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship GREAT REPUBLIC, Capt. S. Doane, will be dispatched on MONDAY, January 4th, 1869, at 12 o'clock M., from wharf corner of First and Brannan streets, for HONGKONG, connecting at Yokohama with the steamer COSTA RICA for Shanghai.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Markleeville *Miner*, Dec. 19th: Supt. Gamble commenced a dowuward movement on the main shaft of the Morning Star mine on Monday.

Besides the Morning Star Co., and the Monitor Consolidated Co., thero are four mining companies iu the vicinity of Monitor, Imperial, Mt. Bullion, Globe, and Michigan,—each working five men, and all purposing to eontiuue full gangs through the winter.

The Tarshish Co. have at last succeeded in raising $75,000 working capital.

Chronicle, Dec. 19th: A few days since a 14-inch strata of very rich quartz was cut in the Gould & Curry tunnel, on Wiseman's claim. Mr. Wiseman is going np on the ledge, and this strata has widened to about 20 inches. The quartz is said to be easily worked.

The prospects of soon striking the Pennsylvania ledge, and that it will be a rich one, are so good, a large number of claims have lately been taken up on it for a distance of ten miles, it being plainly traceablo the entire distance, with the exception of about 200 feet.

The Markleeville correspondent writes that the Pioneer quartz mill has shut down to make some improvements.

AMADOR COUNTY.

Dispatch, Dec. 26th: Mr. Siebenthaler has recently refitted the old Tynan qnartz mill, a short distance above Volcano, and commenced crushing the quartz taken from his lead, which is paying handsomely. Wo are informed that several other leads have been recently discovered in that vicinity, which promise an abundant yield as soon as they can be opened and placed in working order.

The proprietors of the Coney mine, near town, have put up a couple of Paine, Stephens & Harry's new concentrators, for the purpose of saving sulphurets.

We learn that a rich lead has been discovered, and is now being opened, near Sutter Creek, by a couple of Austrians. Although the lead, so far as it has been developed, is but a few inches in thickness, the rock prospects sufficiently rich to insure a handsome return for working it—$300 having been taken from 15 pounds of the quartz, by means of a hand mortar.

INYO COUNTY.

Los Angeles *News*, Dec. 22d: Mr. Westerville, with two wagon loads of silver and lead bars, weighing 5,000 pounds, arrived in this city on Saturday evening last, from the Owon's River silver mines. He reports the furnaces in active operation day and night, turning out large qnautities of bars daily. They have discovered a fine quality of fire-clay in the vicinity, and the difficulty heretofore experienced of makiug the furuaces stand the heat, has been obviated. Wr. Westerville says that there will be 35,000 pounds of bars shipped to this place in a few days.

MARIPOSA COUNTY.

Gazette, Dec. 25th: The Oaks & Reese Mining Co. still continue to extract very rich ore from their elaim. This eompauy are adding to their works a new battery of four stamps; also, a concentrator and discharging grinder. When these improvements are completed—making it then a 16-stamp mill—the company will be able to operate still more successfully than heretofore. This company intend in the spring to reopen the Floyd mine, and also make other improvements.

The mine lately opened by Woolcock & Johnson, and noticed by ns some weeks since, has proved to be a pocket vein, and does not turn out as rich as reported. They realized a suug little sum, however, from this pockct, and are going ahead in constant hopes of striking another still richer.

NEVADA COUNTY.

Transcript, Dec. 22d: John Hughes and others have located 1,100 feet on a ledge on the south side of Wolf Creek, one mile southwest of Grass Valley, and called it the White Pine ledge.

The people of San Francisco look at the specimen rock from White Piue, and read the account of assays, and straightway go crazy abont tho richuess of the new district; but the miners of Nevada County certainly ought to know that a rich specimen or a large assay is not conclusive evidence of the richness of a mine. There are 50 mines iu Nevada County from which rock can be obtained that will beat anything that has yet been discovered in White Pine. The quartz mines of this county are not yet developed; their development is slow work. In Eureka, Meadow Lake, Grass Valley and Nevada townships, there are hundreds of mines that have not been thoronghly prospected, which give good evidence of richness. They show good rock and excellent assays. People do not go crazy about the quartz mines of this county, because they are not far enough away. The quartz mines of Nevada County if located in Mexico, would carry off one-third the popnlation of the State. Our people remember that within a few years, Fellows took $50,000 from a ledge in a few weeks, with a haud mortar. This story, told of White Pine, would start a score of men; but as it was done in Nevada County, it did not create so much excitement. Hnndreds of rich strikes in this county might be cited, giving more evidence of great mineral wealth than has beeu given in regard to White Pine, and if men would go to work, there are better chances of making money tban any offered in the new district.

The North Bloomfield Gravel Co. expected to complete their ditch to Columbia Hill yesterday. This line of ditch has been bnilt from Little Cañon Creek to Columbia Hill via North Bloomfield, within a few months. The company own gravel claims at both places, and expect to do a great deal of work in another season. The entire ditch is built in the most substantial manner.

Gazette, Dec. 21st: Of late, Mr. Maltman has been almost constantly employed on sulphurets from the Banner mine, which yield on an average $120 per ton. After the Banner mill shall have ten more stamps added to its crushing power, it will be able to furnish Maltman's works sulphurets enough to keep them running up to their fnll capacity. M. M. has worked nearly all the sulphurets from Soggs, Cornish, Pittsburgh, or Wigham, aud various other mines in Nevada township, aud has been able to save a larger per ceut. of the precious metal than any other similar establishment in the county.

Dec. 23d: Black & Young's mill, at Eureka, started up on Monday last, having contracted for a winter's job at $100 per day, crushiug rock from the Banberry & Co's ledge. The Banberry rock does not pay as largely as rock from some other ledges, but it yields enough for good dividends.

Dec. 24th: The proprietors of the Birchfield diggings have warned the authorities to widen the flume in the lower portion of Kelsey's Ravine, so as to allow the tailings from their mine to pass through freely. The company intend to run off a large amount of gravel this winter.

The old Manzanita claims, owned by Marselus & Maltman, are now being put in complete order for hydraulicing, and work will he commenced on them in a few days.

Grass Valley *Union*, Dec. 25th: Yesterday, some splendid specimens were brought to Findley & Co's bank, from the Bowery ledge. This ledge is a new location, and is an extension of the famous Seven-thirty. The specimen we saw is a large one, aud is specked with gold on every side.

SIERRA COUNTY.

Downieville *Messenger*, Dec. 26th: The rain of the last few days is a good thing for the mines. It will enable those whose dumps are full to wash their dirt, and to keep their drifters at work. There was 18 inches of snow on the ridges before the rain commenced, aud as this storm has beeu all rain, there should be a fair supply of water for washiug drift dirt.

SISKIYOU COUNTY.

Yreka *Union*, Dec. 19th: E. H. Hall still continues work on the Scoles quartz ledge, and finds an improvement in the quality of the rock as he goes down. The ledge 50 ft. from the surface, is two feet in thickness.

YUBA COUNTY.

Marysville *Appeal*, Dec. 24th: The steam boiler at the Pennsylvania mill, Brown's Valley, gave out on Tuesday afternoon or evening, and the mill came to a standstill. Materials for repairs were sent for, and by mistake they were put on the Nevada instead of the Browu's Valley stage. The mill, it is expected, will be running agaiu by to-morrow. We also hear that the rock is paying well, with strong indications of stayiug with the company for a year or so.

COLORADO.

Central City *Herald*, Dec. 9th: Mr. Schellinger started np the Montana mill last evening.

The Smith & Parmelee mine is now yielding five cords of ore per day.

Warren Hussy & Co. have bought and shipped dnriug the past eight days 1,800 ozs. of bullion worth $40,000.

A shaft has been sunk on the Wall Street lode in a depth of 25 ft., showing an ore vein 2¼ ft. wide, which is composed of gray sulphurets and quartz containing silver, as shown by fire assay, all the way from $196 to $3,000. A quantity of the ore has been treated by Huependen & Wolters which yielded 160 ozs. per ton.

Central City *Register*, Dec. 10th: The Brastow mill in Lake Gulch is working constantly on ores from the Bobtail.... Col. Tannat's mill at Mountain City started up on Wednesday. It has 30 stamps.... We saw in Clark's bank, last evening, two beautiful silver bricks weighing 800 ozs., the product of the California Reduction Works.

A correspondent writes from Ward district, that the Edge Hill is running on surface rock with good results. That the Ni-Wot Co's shaft is being driven down as rapidly as possible, and that it is the intention to sink it to a depth of 600 ft.; $25,000 has been taken from surface rock in that district the past season, by the labor of 20 men.

Prospecting is being vigorously pushed in the vicinity of Georgetown and Mill City, and some very promising lodes have very recently been discovered. Some colored men got on to Mr. Snyder's "Snow lode last week, and "struck it rich" within abont 200 ft. of the discovery.

Yesterday a single retort of gold bullion weighing 800 ozs., and worth $17,000, was on exhibition at Warren Hussey & Co's banking house. It was crushed from ores of the Pleasant View mine by 25 stamps of the Briggs mill in three week's time.

Denver *News*, Dec. 9th: Mr. Wells, of Lake County, has shown us a very rich sample of gold quartz from a lode lately discovered in California Gulch. One mill at Granite took out $8,000 from 50 cords of quartz.

Bernard & Studt, at California Gulch, while working on the Pilot last week, struck a very rich pocket, out of which one pan of dirt yielded 99 pwts. of gold. Several remarkably rich specimens were also found, one of them weighing about a pound, estimated to contain eight ozs. of gold. It is said they have panued out in all $600 from the pocket.

At Granite district theroare five lodes being worked. W. B. Feltou is still rushing the Magneta down; it is now 80 ft. deep with six ft. of ore, It is the best developed lode in this district. Morrison is sinking on tho Jessie Johnson, which also looks fine. D. C. Travis is opeuing a hole through the Yankee Blade Mountain. Thore is but one mill running at present. Mr. J. J. Walley is crushing from the South America.

DACOTAH.

Sweetwater *Mines*, Dec. 9th: The ore from the Dyer ledge exhibits free gold in abundance, and it is a well-defiued ledge, with good wall rocks, and a vein of ore between three and four feet in width. The Eureka and Mineral Star lodes are well-defined.

The progress made in developing the resources of that sectiou of country for the length of time siuce its discovery, is greater than that in any other sectiou of country that we have heard of, if we except the re-rccently discovered White Pine district in Nevada.

Several sales of great importance have been made recently, viz., 600 feet of the Miners' Delight for $18,000; 800 feet of the Anstin City for $40,000; and 600 feet of the Young America for $50,000, besides some of the Atlantic and Lone Star State ledges, but at what figures we are unable to state.

Virginia *Enterprise*, Dec. 27th: H. G. Comstock, after whom the Comstock lead was named, writes as follows from South Pass City, nnder date of Nov. 14th: I am operating somewhat in quartz. I have a fine arastra in operation, and am crushing qnartz from the Miners' Delight. I think this will be a good qnartz camp in another year, as there is a 20-stamp mill going up now and is nearly done. Several mills and arastras are now in operation. I struck the principal surface diggings that have been found here. But little prospecting has been done in this part of the country for fear of the Indians, who have killed several persons and committed many depredations during the summer, but this fall a considerable amount of prospecting will be done.

IDAHO.

Owyhee *Avalanche*, Dec. 19th: At the depth of 140 feet in the Golden Chariot mine, a levol has been run sonth 180 feet, and another level 105 feet north. Along this whole distance of 285 feet, there is not a single pound of refuse rock—it is all pay ore, and that, too, of a high grade. In all the work done on the mine, no vein matter has been rejected; but the whole has been hauled to the mill and reduced. And, as to average results, the mine may safely stand in comparison with any other on the continent. This average—$125 per ton of all the vein matter between the walls of the ledge—is something that no mine in California, or outside of Owyhee, can boast of. While this is the average, mnch of the ore now being taken out is of nnprecedented richness. Many tons together have been worked, and more are in sight along these levels, worth $2,000 and upwards per ton. Four hundred tons of ore are now out, and will be crushed at the New York mill in a few days.

Walsh & Waanke, who have got the John Jacob Astor lode bonded to them until the 1st of June, 1869, have commenced operations. They expect to have 100 tons of ore out by next spring.

Silver City *Tidal Wave*, Dec. 15th: The Earthquake Co., recently formed for mining on the Galena ledge, in Sonth Mountain district, are about to commence work on their mine.

Black's mill is running on Rising Star ore, belonging to the Iowa Co. The mill has been changed to a dry crusher, and is reported to do good work.

The Sinker mill has stopped for the present.

Dec. 18th: A lot of ore, between 50 to 60 tons, came down from the Golden Chariot mine, on Wednesday, which is said to be the richest large lot ever brought down the mountain in one day. The Golden Chariot Co. will have their ore crushed at the Owyhee mill, during the winter.

Dec. 22d: The Pickens & Edward's mine, at a depth of 20 feet, has revealed a solid seam of quartz, in a gouge on the hanging wall, that is nearly metallic silver. This stratum or seam is four inches in width, and increases the mineral vein to a thickness of full two feet.

Black's mill is doing good work on Rising Star ore. The result of the first ton crushed was 37¼ pounds of dry amalgam without cleaning the pan.

The shaft on the Baxter ledge, south of the Poorman, is now down 100 feet, showing a vein of ore 14 inches wide of great richness, and is easily mined. Mr. Herman has shown us a specimen of the ore, showing not only black sulphurets in abundance, but ruby silver in considerable quantities. The principal yield from rock that has been worked, has been in gold. They will continue to sink all wintor, so as to be able to drift and stope in the spring.

The Woodstock mine has been bonded to Dave Meek, who has now out about 125 tons of ore, estimated to be worth $6,000 or $7,000. The ore is to be worked at the Owyhee mill. The prospects for the Woodstock are improving faster than at any previous time in its history.

MONTANA.

Helena *Post*, Dec. 11th: We learn from a gentleman just in from Diamond, that notwithstanding the surface work was stopped by reason of the cold, the miners are preparing to drift and the probability is that there will be few if any idle men in that camp this winter.

A. J. Smith, just in from Bannack, says that camp bears the reputation of being the most bustling camp in the Territory. The surface works having ceased by reason of the cold weather, the owners and miners are turning their attention to drifting, or to the development of their quartz lodes, of which there are some in the vicinity of Bannack that cannot be surpassed in Montana.

The Deer Lodge *Independent* says: Boomerang Gulch is prospecting very richly, paying about $18 per day to each man by the rocking process. The miners of this locality have labored under great disadvantage from want of water, but now having facilities for an adequate supply, the next summer splendid results are looked for from this mining locality.... Carriboo Gulch is deserted for the winter. The Carriboo Co. have erected a large reservoir above their claim and will commence ground sluicing in the spring on an extensive scale. Splendid results are also looked for from this company's operations.

NEVADA.

RUMBOLDT.

Unionville *Register*, Dec. 19th: Ore has been struck in the lower level of the Arizona mine surpassing anything yet found in quality, and abundant in quantity.

REESE RIVER.

Virginia *Enterprise*, Dec. 22d: The White Pine fever continues unabated, though it is somewhat less virulent at present than a month since. Nearly everybody has it in a mild form, and the majority expect to linger in this vicinity until toward spring. Almost daily somebody leaves for the "poor man's paradise," but there is no grand rush. The news from the mines continues unchanged—very favorable all the time.

Silver Bend.—Austin *Reveille*, Dec.

19th: A White Pine has been looking at the mines of this district, and concluded that there was valuable property in that district. He saw considerable piles of ore at all the mines that were worked, the major part of which would pay handsomely; and he believes that the large veins are of the productive and lasting kind. Our correspondent visited the Highbridge, Transylvania and El Dorado north and south, and he says the more closely he examined them the more fully he was impressed with the conviction that they were mines of the highest character. Col. Buel was pushing work with judgment and energy on the Highbridge and Transylvania, and the results obtained were of the most gratifying kind. The El Dorado South appeared to the visitor to be one of the grand mines of the State, and it was evidently well managed. There were two piles of ore at the surface which contained in the aggregate 4 00 tons, the value of which might be safely estimated at $100,000. The width of this large v in has not been ascertained, but it will undoubtedly prove of great magnitude. Several mines of less note, but still very promising, were being worked to advantage and were producing good ore, which the owners may have reduced at Col. Buel's mill, and thus obtain the means for steady development.

Wines & Co's express line from Hamilton brought into this city this morning eight bars of bullion from one of the mills at White Pine.

Mountain *Champion*, Dec. 19th: Troy and Granite districts are receiving much attention. They are both in the range of the White Pine Mountains, from 60 to 80 miles south of Treasure City, in the White Pine district. We are informed that there are from 75 to 100 men engaged in prospecting and locating the many ledges of the Troy district. Now discoveries are made every day and are quickly taken up. The district possesses every facility for the cheap working of its ores—wood and water is plenty, and close at hand. In the Grant district, about 20 miles south of the Troy, many locations have already been made, and there are quite a number of men prospecting in the district. A recent test of ore from the district gave an assay of $351.54 per ton. The veins are said to be large and well defined, and the ore yields a fair proportion of gold. Arrangements are completed for constructing a mill in the district at an early day.

Silver Bend.—Leon & Co., on the El Dorado South are taking out more than at any previous time since the opening of the mine. The hoisting works, and other improvements for the working of the mine, are now completed and they have resumed work on the prospecting shaft, now down 185 ft. The intention is to sink this shaft to the depth of 500 ft. In the old incline the ledge is looking finely and workmen are engaged in breasting out. In the south incline the ledge is increasing in width, and from it they are hoisting large quantities of very rich ore. The Belmont mill is running night and day on ore from this mine, which is yielding from $150 to $350 per ton.

WASHOE.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Dec. 27th: The total shipments of bullion from this city and Gold Hill during the past week, has been 6,926 lbs., valued at $167,314.82.

NEW MEXICO.

Santa Fe *Gazette*, Nov. 28th: A correspondent gives a long and interesting account of the discovery and development of the Maxwell quartz mine located near the Cimaron river. He says: When the mill was first started for several days it was fed on different kinds of wall and intermediate rock in order to test their value and see if they would prove worth crushing, but the rock thus experimented upon was found of little value. The mill was then put to work for six days on the rotten and solid quartz and loose earth. I witnessed the result of the clean up of this six days' run and it amounted to 120 ozs. of gold, worth $22 per oz., making for six days' run a total of $2,640, which, after deducting the expenses of $450 for the six days' run, leaves a daily net profit of $365 per day, and a net profit of $109,500 per annum, allowing 65 days' stoppage for cleaning up and other unforeseen causes of delay. The mill is situated in the Ute Mountains, at an altitude of over 7,000 ft. above the sea, and of necessity during some portions of the winter the freezing of the water in the ditch which supplies the mill may cause a sudden and peremptory stoppage of the mill. The situation of the vein is such, that by running in a tunnel several hundred below the present opening the vein will be again struck, and by opening the vein at other points on the lode, an abundant supply of ore for three or four 30-stamp mills, may be easily procured. The deepest opening in any one of the veins now being worked is about 50 ft. and the ore is brought out at an angle of about 30 .

When I first visited Ute Creek and the Moreno mines in September last, Mr. Maxwell was successfully running two hydraulic washers on Ute Creek, and the week's clean up of the sluice boxes amounted to $700, five men being employed. These men are at work on the opposite side of the mountain putting in sluice boxes on the head of Willow Creek so that when spring and abundance of water come some half a dozen hydraulic washers will be ready for profitable washing on Willow and Ute Creek.

Exclusiveness among Scientists.—The following is a portion of the remarks of Prof. Tillman, at the opening of the Polytechnic Branch of the American Institute, on October 10th, touching the subject of "exclusiveness," "aristocracy," and "haughtiness, sometimes engendered by learning,"—in a vein which appears to us to be peculiarly perverted, and narrowly founded, on a very limited observation of the true feelings and habits of scientific men, other than that superficial and vain class of persons who merit, and pretty surely sooner or later encounter, the contempt of both the educated and uneducated of meritorious acquirements: "If there is any hindrance at present to the progress of truth, both here and abroad, it arises chiefly from the spirit of exclusiveness sometimes evinced by those who have devoted their lives to the study of physical laws. This should not excite surprise, because the tendency of abstract science is essentially aristocratic. The man who knows, stands on a higher plane than the one who does not know. Hence, the position of the scientist is impregnable. He has riches and power, of which he cannot be robbed. Should he find his chief enjoyment, however, in the reputation he has acquired, he may well fear rivalry. On the other hand, if he pursues truth for the love of it, he will welcome all who labor in the same spirit, and extend to those below him a helping hand.

The study of natural laws, in the abstract, undoubtedly affords pure enjoyment; yet this feeling is vastly intensified by witnessing their successful application for the accomplishment of new and important results in the useful arts. Such results are often brought about by the artisan who, although he may know but few of these laws, understands most thoroughly all the conditions peculiar to his art, under which they can be effectually applied. Our great inventors have not, generally, had the advantage of a liberal education. By ingenuity alone they take the lead, and, of course, counteract to a certain extent, the haughtiness sometimes engendered by learning."

White Sage.—The Silver City, (I. T.) *Tidal Wave* says one of the most valuable products of that country is the white sage, that abounds along the foot-hills skirting nearly all the valleys. This shrub, or plant, is a small, straight stem, growing in bunches, with white, fuzzy flowers, a white, thick leaf and thick bark, that resembles in taste and consistency the slippery elm of the Atlantic States. It is second only to corn as winter feed for cattle, horses and mules. No section of country in the United States, says our exchange, can boast of as fat beef, during the season, as the region that abounds with white sage along Snake River, and especially in the vicinity of the Bruneau, Catharine and Sinker creeks. These plains, that were, by the early trappers, hunters and emigrants, regarded as an arid and desert waste, have proven the richest winter pasture fields in the world. Prejudice against the artemesia or black sage, that covers so great a portion of the country between the Sierra and Rocky Mountains, prevented investigation and retarded discovery of the virtues of this plant, until the cattle in Nevada brought it into notice and popularity, by persistently refusing the grass fields for sage pasture.

Photographs of the Catacombs.—By means of the electric light, photographs of the Paris Catacombs are now being taken. The apparatus of M. Serrin for the automatic regulation of the carbon electrodes is used. Workmen can now continue their labor as well by night as by day.

Cod Liver Oil—A Substitute.

"Endosmose and Exosmose," are two words used by the doctors to express the capability of transmission or transudation of fluids through tissues. A bladder separating salt water from pure water will not prevent the salty fluid from interchanging with the fresh. There is said to be little doubt that the oil of the liver of fish is more readily absorbed than that from other sources, vegetable or animal. Experiments made some years ago between various oils, including that of Norwegian cod, respecting the degree of transudation, proved the latter to pass moist or dry animal membranes at least five times as rapidly as any other oil. It was also shown as highly probable that this is due to the presence of bile in the liver-oil, since, after removing the bile-constituents by means of subacetate of lead, its coëfficient of transudation was much reduced, and because poppy-seed oil, after the addition of some bile, showed a far higher degree of osmosis.

Dr. Robert Brown recently made a communication to the London *Pharmaceutical Journal*, stating that a fish found in great quantities on the Pacific Coast, and known as the oulachan, or eulachon, furnishes an oil said to be equal to cod liver oil for medicinal effect, while it is devoid of its offensive qualities. From the article in the *Pacific Medical and Surgical Journal*, mentioned above, we extract the following description of the fish:

The oulachan or eulachon, is a small delicate-looking fish, about the size of a smelt, and not unlike it, semipellucid, and with fine scales. On or about the 24th of March—at nearly the same time each year—it enters the northern rivers, and the southern ones a little later. It was once abundant in the Columbia, but that stream being now disturbed by the traffic of steamers, it is only now in exceptional years that they are caught there in any quantity. In Fraser River, and in most of the rivers on the coast of British Columbia, they are still found at that season (March) in greater or smaller quantities; but it is in the Naas River, falling into the Pacific in latitude 54° 40′ N., that the eulachon is found in the greatest quantities, and it is to its capture in that stream that these notes chiefly relate. The fish comes up from the sea into the fresh water for the purpose of spawning, but, unlike most of its allies—the salmon proper—on that coast, returns to the sea again, and is not seen until the following year. During that season they swarm in inconceivable shoals.

The fishing of the oulachan is made an annual festival by the Indians, and they set a very high value on the fish. The oil is obtained by putting the fish into boxes, generally hollowed out of a solid block of cedar, or so closely made as to be watertight, and then throwing in hot stones. The oil is then skimmed off the surface and set aside to cool.

Iron by Electricity.—The production of iron by electricity has been occupying the attention of several experimentalists of France and in Germany for the last few months. The galvanic process may some day give rise to a revolution in our present modes of manufacturing iron. Quite recently, M. Bouillet read a report to the Societe d'Encouragement upon certain electric processes imagined by M. Feuquiers; but the latter gentleman has not thought proper to allow their publication at present. Herr Klein and Dr. Franz Varrentrapp have recently devoted much attention to the production of iron by means of galvanism. In the process of MM. Salmon and Garnier, of Paris, a thin layer of steel is deposited by means of galvanism, upon the copper plate. When it was sought to increase the thickness of the plate thus produced, it was found that the deposited metal was no longer coherent, but easily fell to powder. This circumstance was taken advantage of by Mr. Collas, who applied it to obtain chemically pure iron, which could be easily pulverized in a mortar, and is eagerly sought after for medicinal use, for the manufacture of fireworks, and a variety of other purposes.—*Scientific Review.*

Copper Mining in Michigan, it is stated, employs a capital of $50,000,000, and from 30,000 to 40,000 persons are engaged in working the mineral deposits.

M. Dumesnil's Wine Process.—In this the cask of wine is placed open, under an iron bell and the air exhausted. The gases contained in the wine are thus allowed to expand and release themselves by rupturing the cells enclosing them. The *Chemical News*, in giving an account of the process, says: The theory of the decomposition of grape juice and other organic substances rests on a very elementary fact, viz.: on the power of double decomposition. Gaseous products of the fermentation do not remain inert, but inergetically induce the fermentation or decomposition of free bodies. These products are the most active in inducing decomposition; they alter wine indefinitely when enclosed in the fibrine cells, which M. Pasteur calls mycodermes. White wines owe their great superiority over red wine to their different condition as regards this point. M. Dumesnil gives an example of the practical value of his process. He allowed the wines of 1865 to ferment till March, 1866, so as to allow of the conversion of all the sugar and extractive matter into alcohol. At this period h substituted for the usual operations the treatment by the vacuum; fermentation ceased entirely. The wines thus treated arrived at their destination in good condition; with other samples treated in the usual way the result was very different. Notwithstanding four rackings, and possibly four classifications, the wines continued to ferment during the whole of the year 1866 and also the commencement of 1867, and they probably still contain gases which will affect them more slowly. M. Dumesnil mentions that his wines of 1867, treated in last March by the vacuum, yielded twice as much as those of 1865.

Sea Weeds for Medical Purposes.—The *Journal des Connaissances Medicales*, published a paper by M. Ed. Moride, on a method for applying sea-weeds to medical purposes. The genus *Laminaria* (found on this coast,) chiefly consists of large plants growing abundantly in deep waters or on rocks that only appear at very low ebb. They are very rich in iodine, chlorine, sulphur, silicia, lime, potash and soda. They are burnt in large quantities on the French shores of the British Channel and the Atlantic, and produce the best raw soda, from which iodine is afterwards extracted. M. Moride conceived the idea of turning these plants to account in their natural state, without subjecting them to a combustion which might modify them considerably, and drive off their most useful volatile ingredients. M. Boussingault and M. Humboldt had stated that in America the inhabitants of the Cordilleras of the Andes were in the habit of using the decoctions of sea-weeds, or else their alcoholic tinctures in cases of scrofula, wens, and lympathic tendencies. These liquids are, however, unpalatable, and have, moreover, a strong smell of the original sea-weed; to avoid which, M. Moride proceeds as follows: The plants, gathered on the rocks on which they grow, are slightly rinsed in fresh water, in order to rid them of the salt water adhering to them; then dried and exposed to the sun, whereby they lose their smell and taste of wrack; after which they are pounded in a mortar and macerated in strongly alcholized water at a somewhat high temperature. The iodized tincture thus obtained may be used to prepare a medicinal wine, or else a syrup with, which will be found useful in all affections for which iodine is prescribed.

Soap Growing on Trees.—Soap berries are to be found in immense quantities throughout Alaska. They grow on a bush about the same in appearance as whortleberries. When ripe they are red, of a juicy and quinine taste, and generally biennial. One quart taken and placed in a tub the size of a bushel will, when stirred, completely fill the tub with a froth, and the more it is stirred with the naked hand and arm; the stiffer it becomes, until you can cut it with a knife. It is eaten with horn or wooden spoons, all the family sitting round the tub. It is undoubtedly an acquired taste, but the commodity is much sought for. The froth is of a beautiful pink color. Green berries will make nearly the same amount of froth, but it is of the white color and is not so highly flavored. Foreigners stir it with port or sherry wines, and add sugar, in which case it is a delicious luxury. Large quantities are dried, by being placed in a tub with their leaves, forming a cake, which is placed on wicker tables, with light fires under and the sun overhead. When dried they will keep in a dry place for some years. The dried berries are black and look dirty. A piece two inches square, beaten in a water pool, will fill it full of froth of a dark pink color.

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San Francisco:

Saturday Morning, Jan. 2, 1869.

Notices to Correspondents.

VOYAGEUR.—However laudable it may be for a seaman to devote some of his leisure time to assisting any branch of science, in the present state of geology, that science would not be much promoted by a mere collection of rock specimens derived from distant places to which his duties may call him, unless accompanied by detailed observations of the surrounding district. It is now generally conceded that the sedimentary rocks and those usually denominated igneous, are much the same all the world over, so far as lithological structure and appearances are concerned, and a mere fragment unaccompanied by additional information, would only record that single fact. If, however, to such specimens, fossils from the same rock can be procured, highly interesting deductions may be formed.

UNEMPLOYED.—White Pine, from the most accurate accounts which we have received, consists chiefly of chloride of silver combined with some arsenurets of lead, antimony and iron, with some chloride of lead, and possibly subchloride of antimony. As the explorations proceed in depth, it is probable that the proportion of chlorides will diminish, and the arsenurets and sulphurets increase. Should, however, the leads lie horizontally, or at a low angle, the amount of chlorides will probably continue in the same proportion in which they are now found to exist.

MEDICUS.—There are good grounds for presuming that the natives of many parts of central and the coast of Africa, together with some of those inhabiting Islands of the Indian Archipelago, possess a knowledge of narcotic poisons with which we are unacquainted. We have been informed that so complete is this knowledge by some tribes on the African coast, that of two fowls cooked at the same time, they can distinguish whom brought to table the one containing poison from the one that is innocuous.

NATURALIST.—The line of demarkation between the vegetable and animal kingdoms is so obscurely marked in the lower organized marine species, and the modes of collecting and preserving these are so similar, that the methods practiced for either purpose, whether relating to algæ, sponges, corallines, and corals, apply to all.

ARTICLES on the chemical ingredients and practical methods of utilizing California petroleum; on several new ideas for creating power; in a new modification of the German percussion table; describing an ingenious cartridge-making machine; an interesting communication from a mining engineer in the mountains back of Mazatlan; and notices of several lots of minerals received for determination, are, from want of space, necessarily deferred till our next issue.

Improved Method of Working Roasted Gold and Silver Ores in Pans and Barrels by Amalgamation.

The leaching process for which a patent has been issued to G. Kustel, through the agency of the MINING AND SCIENTIFIC PRESS, is applicable to ores from which only a low grade amalgam can be obtained, in consequence of the presence of the base metals—iron, copper, lead, antimony and arsenic. Simple as this process is, it elevates pan and barrel amalgamation to a higher degree of importance.

Millmen are aware of the fact that a certain class of ores, and principally tailings, when amalgamated in pans after roasting, furnish a metal which cannot be melted in a crucible. It consists of metallic iron containing silver, partly alloyed, and partly separated in buttons. Instances of this kind have occurred in the Illinois mill (Nev.) where the proprietors some years ago bought up refractory but rich silver ores, to be worked in pans after roasting. The resulting iron amalgam ruined the purchasers. The old Sutro mill got out hundreds of pounds of iron amalgam from roasted tailings, which, after retorting, had to be dissolved in sulphuric acid, in order to obtain the silver. The same kind of amalgam was obtained also in the Dayton mills, at Dall's mill, etc.

On the other hand, there are a great many mills turning out bullion of from .500 to .700 fineness. The base metals, entering the amalgam, do not only put down the fineness of the bullion, but they actually prevent, to some extent, the complete amalgamation of the silver. These base metals, after roasting, being chlorides, must ordinarily be decomposed before amalgamation, at the expense of quicksilver and of the pan. There are instances where from ten to twelve pounds of mercury was lost to every ton of ore, and where the pans were destroyed in less than a year. The main object of the present process is to remove the base metal chlorides before the ore is subjected to amalgamation.

For this purpose, Mr. Kustel applies a very simple, old process—that of leaching. Most of the chlorides are soluble in hot water, and can be easily removed by lixiviation. An addition of some sulphuric acid is in many instances very useful, but can not be administered if some lead should be present in the ore, in which case muriatic acid is employed; generally, hot water is sufficient. The leaching is carried on as long as a reaction of dissolved metal is perceived in the leach. The ore so treated is then ready for amalgamation. To illustrate the effect of leaching, it may be stated that a charge of 300 pounds of refractory ore from Idaho was equally divided after roasting, one of which was directly amalgamated, the other after leaching. The former amalgamation gave a retorted metal which melted into an untractable lump of iron, while the lixiviated portion yielded a silver bar .897 fine. In both cases the amalgamation was done in the usual manner, under application of heat.

The advantage of leaching the roasted ore before amalgamation, consists, 1st. In obtaining a higher percentage of silver. 2d. In saving from 50 to over 100 per cent. of quicksilver. 3d. In making the pan last several years longer. 4th. In saving the greater part of the copper; and 5th. In a shorter roasting, as there is no necessity of decomposing the chlorides before amalgamation by an increased heat.

The expense, compared with the advantages, is a mere trifle,—the heating of water for leaching. Even cold water will answer, although with a little less effect. Some ores, however, require to be treated first with cold water.

It must be mentioned, that although the chloride of silver is not, like the base metal chlorides, soluble in water, some of it will nevertheless be carried out; but this occurs only at the first attack of the water, when the solution of the undecomposed salt and of the chlorides becomes so concentrated that a little silver chloride is dissolved on the Augustin principle. There is no difficulty practically, however, in preventing the escape of dissolved silver.

Not all the copper contained in the ore is converted by the roasting into chloride of copper, there being also formed a subchloride which is not soluble in water; but this is easily decomposed in the pans, so that in this case a considerable amount of copper would be found in the amalgam. There are several ways of reducing the subchloride of copper, to a greater or less extent, according to circumstances.

It may be mentioned here, that a patent has been granted to Mr. Thomas Rowan, of Glasgow, for a similar application of leaching, which has for its purpose the removing of phosphorus from iron ores before smelting. The ore is subjected to a chloridizing roasting, whereby chloride of phosphorus is formed, which is extracted by lixiviation.

Persons who may interest themselves specially in this process, are referred to Mr. Kustel, box No. 1,588, P. O. San Francisco, for further particulars.

1869.

The New Year begins our XVIIIth Vol. We find those figures suggestive, since they remind us that our era is now old a score of years. Whether our steps in civilization will be measured by scores hereafter, or not; certain it is, from our past, that great results are apt to be brought to pass in the occident in an astonishingly short space of time; and that 1869, especially, will be a year when living, thinking, and energetic men, will not be dreaming. Things are to happen very probably in the course of the year which will be remembered. Our readers need not be reminded of the situation and its varied bearings. It is enough that we here impress upon them the fact that action, and enterprise, are the watchwords of the year; that intelligence is the light whereby development proceeds; and we may congratulate ourselves, as we utter our "Happy New Year," on possessing a field which it will be of some use creditably to fill, as well as a circle of readers in which may be enumerated, not only the hard-fisted men of the crane and hose-pipe, the cabiners and hermits of the foot-hills and of the great interior, but all the wide-awake millmen, mining managers, foundrymen, manufacturers, and scientific men on the Pacific Coast, from the Sierra Madre to Cariboo,—embracing a class more intelligent, select, and of more real importance in contributing to the substantial advancement and development of the coast, than any other journal which is published can boast. Our aim for 1869, shall be to make the MINING AND SCIENTIFIC PRESS indispensable to them, and to those who should, no less than to all who do, patronize us.

THE GREAT BLAST at Smartsville, took place on Wednesday, Dec. 23d, as expected, and proved a complete success. Fifteen tons of powder blew up a body of earth superficially equal to 11,100 square feet and to a depth of 80 feet; making a total of about 888,000 cubic feet of ground raised. There was very little noise, but houses trembled as in an earthquake, from the subterranean concussion, it is presumed. Nothing but a little dust from the gaping crevices was thrown into the air, but the earth rose bodily about fifteen feet, and at once sunk back so nicely into its original position as to retain underground even the smoke from the combustion of the powder. Further details are expected from our correspondent.

THE ANNUAL REPORT of the Empire Mill and Mining Co. has been received, showing clearly and concisely the extent of the operations during the past year.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

Railroad Opening Excursion.

The rapid extension of railroads in California is one of the most signal evidences of the great and permanent growth of the State. Their success and popularity already illustrate how much we have been in want of cheap and comfortable transportation on the Pacific Coast.

On Wednesday last, the opening of the Napa Valley and California Pacific Railroad was celebrated by an excursion trip from Sacramento and San Francisco to Calistoga. About 500 citizens from the former place met 700 from this city, at the junction of the two roads, seven miles north of Vallejo. It was a beautiful day, and the excursion was greatly enjoyed—notwithstanding, California-like, "the thing was overdone" by the managers having too many friends who failed to report their acceptance of the invitation, as kindly requested. The cars, and also the dining room at Calistoga, were not only crowded, but literally packed full. The boat left San Francisco at 8 A.M., arrived at Vallejo before ten, and after considerable delay in getting started, as well as at several points on the route, the train reached Calistoga, the terminus, at 2 P.M. A hasty lunch,—furnished by the proprietor of this beautiful resort, Samuel Brannan, Esq.,—was partaken of, when the train returned to San Francisco, the passengers arriving home at about 9 o'clock.

The Napa Valley Railroad, of which Mr. Smith Brown, of Napa, is president, extends thirty-five miles from the junction of the California Pacific, to Calistoga, through one of the most delightful sections of California, as to climate and scenery. The California Pacific Railroad is completed from Vallejo to Sacramento, a distance of sixty miles. It will ere long be continued to Marysville, the company designing to complete a direct line to Oregon, in connection with the California and Oregon Railroad.

Following are the principal stations on the routes passed over by the excursionists on Wednesday: From Sacramento, on the California Pacific Railroad, to Davis, 14 miles; Dixon, 22; Vaca, 30; Fairfield, 40; Bridgeport, 45; Summit, 49; Napa Junction, 53; and Vallejo, 60 miles. From Vallejo to Napa Junction, 7 miles; Suscol, 11; Napa, 16; Oak Knoll, 21; Sebastopol, 26; Oakville, 29; St. Helena, 35; and to Calistoga, 42 miles.

We noticed great improvements going forward along the line of the Napa route, mainly due to the railroad, which presents a fair example of what railroads are yet to accomplish along each important thoroughfare in the State.

The management of the excursion party from San Francisco, by our popular friend Alex. Badlam, was all that could be desired under the circumstances. If space would permit, we should like to speak our mind in praise of D. C. Haskin, the indomitable Superintendent of the C. P. R. R., Mr. Harris, its Chief Engineer; and the landable efforts and opportune assistance rendered by others, in favor of the completion of these projects, the ultimate results of which cannot yet be estimated.

R. D'HEUREUSE, the inventor of the air fermentation and germination process for wines, etc., and of the gold extraction process by zinc, is about to make an extended visit to Europe for the study practically of some of the new inventions which have been made in iron metallurgy—his specialty prior to 1849.

VELOCIPEDES of every variety, including several of new design, are being built at the carriage makers. One at Kimball's has three wheels, two of which measure eight feet in diameter. Rubber tires, and a peculiar treadle-connection by which the full weight of the rider is constantly utilized in propelling the machine, are ideas that find favor. Novelties in this line are also under way at the Golden State Foundry.

THE OVERLAND MONTHLY.—We have received from A. Roman & Co., the publishers, the "Holiday Number" of this magazine, which therewith commences its second volume. It is an excellent number. We have had time to read only a portion of its contents. In "Jonrnalism as a Profession," we recognize an unquestionably first-class article. In the "Outcasts of Poker Flat," we think we see the pen which so graphically described forty-nine life in "The Luck of Roaring Camp." In "Our Brother from California" we can almost fancy we know the "Charlie" whose presence suggested to the (undoubtedly) fair author the subject for the article. The "Etc." contains an excellent letter from Rome, under the head "Gossips from Abroad;" and among the reviews of new books may be especially noticed one of Mr. Parton's "Smoking and Drinking." The whole "Table of Contents" looks tempting, and we promise ourselves a long evening of comfort with it yet.

Read and Subscribe.

With the advantages of past experience, the increased patronage and friendly support of the intelligent and progressive readers of the Pacific States and Territories, we are confident in asserting that the new volume of the MINING AND SCIENTIFIC PRESS, commencing with 1869, shall be in all respects superior to its predecessors. Of the past, we will give the written

OPINION OF OTHERS:

EVERY miner in the community should subscribe for the Mining and Scientific Press.—*Grass Valley Union.*

THE *Mining and Scientific Press* should have an extensive circulation in every mining community on the Coast.—*Placer Herald, Dec.* 19.

THE *Mining and Scientific Press* is one of the best papers of the kind ever published, and to California miners, especially, it has become an almost indispensable requisite for the successful prosecution of their calling.—*Nevada Gazette,*

THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It has donned a new style hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

TO MINERS.—William H. Murray, traveling agent for the Mining and Scientific Press, published by Dewey & Co., of San Francisco, is in town soliciting subscriptions for that paper. To the intelligent miner, a paper like the *Press* is particularly valuable, keeping him posted on the latest discoveries in reduction of ores, new machinery, etc.—*Grass Valley National.*

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books *Nevada Gazette.*

WE CONSIDER THE MINING AND SCIENTIFIC PRESS the most valuable mining and mechanical newspaper issued in the United States. Dewey & Co., publishers, are also solicitors of foreign and American patents and conduct patent cases of every kind. We guarantee that all business confided to them will be carefully attended to, and we further believe that every miner, mechanic, and scientific man should have their valuable paper.—*Auburn Stars and Stripes.*

THE MINING AND SCIENTIFIC PRESS, of this city, has done us the honor to notice us in their columns, and we feel in duty bound to acknowledge the compliment.

It were fruitless for us to say anything in praise of the MINING AND SCIENTIFIC PRESS. * * * It speaks for itself wherever it goes. Its editors are men of intelligence, ability and honor.

We have had frequent occasion to have business relations with the patent agency connected with this establishment, and have had nothing left to desire in regard to it. Fidelity, promptness and courtesy, soon arranged everything for us to our complete satisfaction. Having had frequent delays at Washington while in that city, we have been surprised at the promptitude with which some of our friends obtained their patents through the agency of Messrs. Dewey & Co.—*S. F. Spiritual Light.*

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A Hint to Subscribers.

We would remind those of our subscribers whose subscriptions have expired, that we shall be happy to have them forward the amount of their annual subscription. It will save us much time and expense to have patrons send in their subscriptions just before, or promptly at, the time of expiration. We have been unremitting in our efforts during the past volume, to render our paper valuable and acceptable to our readers, and we are sufficiently encouraged with the result to anticipate still greater outlay in the future, in extending the value and usefulness of the PRESS. We hope to receive the subscriptions of many old and new patrons for 1869.

Dec. 24, 1868.

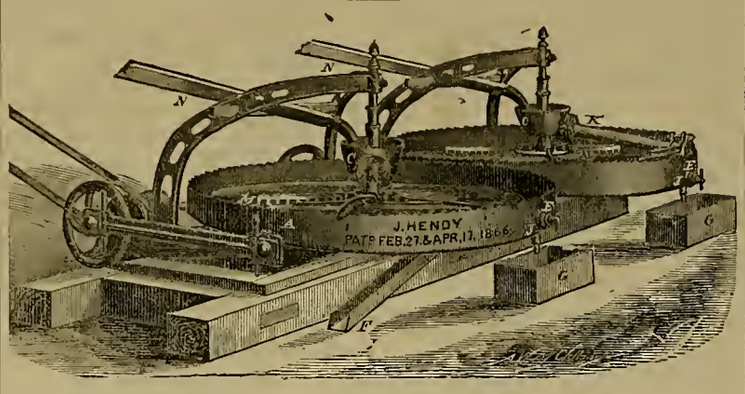
PREMIUM FOR BEST CONCENTRATOR

AWARDED BY THE

MECHANICS' INSTITUTE, 1868,

ALSO AT THE STATE FAIR FOR 1868,

To J. HENDY.



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13v17tf

Three Calendars in One.

We have just issued a card circular, of convenient size for the office and counting house use, containing large calendar for 1869 and small calendars for 1868 and 1870; also alphabetical table of distances from San Francisco, U. S. Revenue Stamp Tax, U. S. rates of postage, rates of foreign postage, relative value of currency, information about patents, etc. It is for general circulation, and free for all who may send for it.

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The office of the MINING AND SCIENTIFIC PRESS is located in the second story at No. 414 *Clay* street, north side, just below Sansome. Here we have spacious accommodations, with our patent rooms, editorial room, counting room, newspaper and job printing offices,—all conveniently arranged and connected, and our facilities for dispatching business correctly and economically, better than ever before. Don't forget the number —414 Clay street, below Sansome.

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RETURNED.—Dr. J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs beautiful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low 10v17tf

Mr. MOWRY, lately a clerk in a hotel at Colfax, is requested to call at the office of the MINING AND SCIENTIFIC PRESS, No. 414 Clay street, below Sansome, San Francisco.

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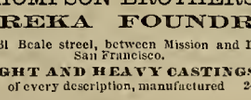

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Enterprises and Developments.

SHIP-BUILDING is active at Stockton.

SEVERAL hundred men are making salt on the tide lands of Alameda County.

THERE will be more than 2,000 olive slips set out in San Diego County this year.

FIFTY THOUSAND dollars will be invested in a new distillery at Antioch, Contra Costa County.

A LARGE quantity of salmon has been caught and cured in Humboldt, and forwarded to New York.

THE California Powder Works at Santa Cruz, which have been lying idle for some six weeks, have resumed operations, and lately added considerably to their facilities for manufacture. They have recently put in position a hydraulic cylinder weighing about 7,300 pounds.

THE BRANDY DISTILLERIES.—Samuel Brannan has erected an immense distillery at Calistoga, and purchases all the grapes offered at $1.12½ the cwt. He proposes to make the best brandy of the county, sparing neither cost or pains to do so.

FUNGUS OR "EARS" FOR SOUP IN CHINA. About 30,000 pounds of fungus or "ears" (from its resemblance to the human ear) gathered on trees in the southern part of the Society Islands and packed in bags woven from slips of *booroa* bark, have been discharged from the brig Timandra, for China, where the article commands a good price for soup. The price paid to the gatherers at Tahiti, and at the Sandwich Islands, is 12½ cents a pound.

AT the Summit Soda Springs, a few miles from the Pacific Railroad, a large hotel is to be built in the spring, and the place is to be connected with Lake Taho by a good carriage road. The railroad company have already built a fine wagon road from the station down to the springs. Soda and iron are the ingredients of the waters, which are said to be craved by herds of deer, and to be very salutary for diseased kidneys.

THE Australian Extract of Meat and Cattle Company, with a capital of 100,000*l.*, in shares of 2*l.* 10s. each, has been incorporated in London for the purpose of carrying on in Australia a business similar to that which has been so successfully and profitably established in South America under the auspices of Prof. Liebig. Upon the assumption that 15,000 head of cattle will be slaughtered annually, it is shown that whilst the outlay would not exceed 82,075*l.*, the revenue obtained from tallow, hides, tongues, horns, bones, oil, and extract of meat (the latter taken at nearly 20 per cent. below present prices, to allow for possible, though not probable, fall in price) would amount to 187,500*l.*, leaving a nett profit of 105,425*l.*, or sufficient to return from 100 to 150 per cent. per annum. Two establishments have already been started—one in Queensland, and the other in New South Wales. That Northern Australia is at present unoccupied is attributed to the want of profitable means of disposing of stock.

FISH AND COAL ON THE ALASKAN SHORES. The scientific expedition sent out to Alaska by the Government has made its reports on the fisheries, fur trade and mineral wealth of the new Territory. Much inconvenience was entailed on American fishermen heretofore by their necessary trips to San Francisco, not the smallest part of which was a heavy outlay of capital on ocean-going craft. Now that the country is ours, they can fish in fifty-fathom water in ordinary open boats. Formerly the importation of codfish from New England ports to California was a heavy item. It has been stopped completely by the acquisition of Alaska. In 1867, twenty-seven American vessels were employed among the Shumagin Islands on the shores of Southern Alaska. The average catch was nearly 100 tons, which was valued at 9¼ cents coin, per pound; the average cost of outfit and labor, $3,000 in gold. It is stated that the eastern portion of the Behring's Sea is extremely rich in cod, and that the area within the limits of fifty fathoms depth is 18,000 miles in extent. The banks along the shores of Alaska, south of the Aleutian Islands, are about 4,500 miles. The whale fisheries, especially in Archipelago Alexander, are well known. The Coast Survey has discovered indications of large beds of anthracite coal. The warm current from Japan exercises a beneficial influence on the climate of Alaska.

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

SULPHUR TREATMENT OF WINE.—Dr. Frederich Mohr, of Coblentz, does not approve of the use of burnt sulphur or liquid sulphites for improving wine. The sulphurous acid gradually changes to sulphuric, and combines with the potash of the tartar, causing a corresponding quantity of tartaric acid to be set free, and thus to increase the amount of acidity. The effect of sulphur is not permanent, and after the application requires manifold repetition, because the oxidation of the sulphurous acid affects all other oxidizable ingredients far more strongly than before. All the recipes proposed arise from ignorance and the crudest empiricism.—*Druggists' Circular.*

QUARRYING WITH THE AID OF FROST.—The Russians practice a peculiar way of detaching enormous pieces of marble. If powder were used it would destroy the appearance of the marble. The mode adopted is to make crevices in the marble during the summer and fill the crevices with water. As winter approaches the water congeals and causes the crevices to become wider and wider, until finally a huge piece of marble is detached. The quarries present the appearance of an enormous staircase.

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There are different grades of finish in the different varieties of Watches made by the Waltham Company, as there are different sizes and shapes to suit all tastes and means; but every Watch that bears the genuine trade-mark of "Waltham," is guaranteed to be a good one, and nobody need be afraid to buy it.

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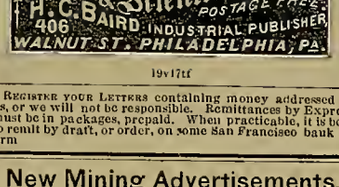

19v17tf

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm

New Mining Advertisements.

Alamo Gold and Silver Mining Company.—Location of the Mine, Lyon County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment (No. 12) levied on the twenty-fifth day of November, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
R Perry	96, 97, 98, 99, 100	410	$102 50
W P Nodd	32, 33	20	5 00
C & F Ebner	43, 44, 45	50	12 50
O Otto	47	8	2 00
G Wetzler	148	30	7 50
H V Rice	78, 79, 81, 84	100	25 00
R W Thompson	88, 104	35	8 75
J Pierce	92	50	12 50
O S Pierce	93	50	12 50
A R Phelps	101, 105	35	17 50
J P Smith	1 6	5	1 25
W Pickett	121, 122	50	12 50
G Reed	129	5	1 25
A P Everett	130, 221	40	10 00
A B Forbes	132	25	6 25
R Meachlan	133, 205	25	6 25
Jas Merritt	2 6	25	6 25
F Martins	135, 144	20	5 00
P Ring	136, 149	22	5 50
J W Raymond	137	20	5 00
H Van Lokron	141	40	10 00
H Schmeidell	143	10	2 50
G M Blake	145, 146	25	6 25
W K Flint	156, 157, 200	65	16 25
J A Wright	158	26	6 25
G D White	161, 193	55	13 75
Robt Irwin	163	10	2 50
H J Underhill	164, 165, 166 167, 168	10	2 50
A P Stanford	175, 209	150	37 50
J T Haley	180	15	3 75
W E Wood	184	25	6 25
E T Pease	188	10	2 50
C H Sherman	191	65	16 25
J P Dyer	194	5	1 25
L H Brooks	195	2	50
F Lipplin	167, 204	25	6 25
S Hubbard	198	5	1 25
L Thompson	199	10	2 50
Tabor & Hill	28, 29	20	5 00
W R Mowry	208	30	7 50
J Fuller	210	5	1 25
W A Cameron	211	6 5-6	1 70
J G Fallen	212	10	2 50
H Rosekrans	214	10	2 50
G H Ricker	213	5	1 25
F A Kreisers	225, 2 6	25	6 25
C H Haley	220	50	12 50
D N Hawley	2 2	50	12 50
A N Humphrys	223	9 5-6	2 46
E P Flint	103, 185	35	8 75
E Shuel	224	10	2 50
J Hill	2 8	10	2 50
J Tabor	229	10	2 50
J Covington		7	1 75
Cochran & Covington		17 1-6	4 46

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Saturday, the thirteenth day of January, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. POPE, Secretary.

Office, No. 419 California street, (Room No. 5) San Francisco. jan2

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-eighth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Nmes.	No. Certificate.	No. Shares.	Amount.
Basler, M	105	2	$4 00
Bromer, G F	108	1	2 00
Billmer, John	261	3½	6 67
Brown, Thomas	315	16⅔	33 33
Brown, Thomas	217	16⅔	33 33
Dorris, B F	293	17	34 00
Foster, C L	304	2	4 00
Gould, Chas	287	5	10 00
Houck, J	292	17	34 00
Itsak, C	272	2	4 00
Haley, G S	243	10	20 00
Kleinsorge, Wm	101	1	2 00
Kleinsorge, Wm	253	2½	5 00
Kleinsorge, Chas	102	1	2 00
Kleinsorge, Chas	259	2½	5 00
Kleinsorge, Chas	260	3⅓	6 67
Mallard, G H	169	3	6 00
Mallard, G H	302	3	6 00
Mallard, G H	305	3	6 00
Mohr, L B M	140	1	2 00
Miller, John	188	8⅓	16 67
Randall, Robt B	271	10	20 00
Randall, Robt B	272	10	20 00
Randall, Robt B	273	10	20 00
Randall, Robt B	274	10	20 00
Randall, Robt B	275	10	20 00
Randall, Robt B	276	10	20 00
Randall, Robt B	277	1⅔	3 33
Randall, Robt B	294	16	32 00
Randall, Robt B	307	16⅔	33 33
Randall, Robt B	308	5⅔	11 33
Randall, Robt B	309	25	50 00
Rice, A W	53	2	4 00
Roth, S	109	3	6 00
Reeve, G B & Co	148	3⅓	6 67
Reeve, G B & Co	149	3⅓	6 67
Reeve, O B & Co	150	3⅓	6 67
Reeve, G R & Co	151	3⅓	6 67
Reeve, G R & Co	152	3⅓	6 67
Reeve, G B & Co	278	9½	19 00
Reeve, G B & Co	269	15	30 00
Steele, H	19	50	100 00
Steele, H	204	4	8 00
Steele, Anna	159	2	4 00
Smeltzer, John	109	2	4 00
Snerkrap, John	220	6	12 00
Snerkrap, John	221	6	12 00
Stose, C	103	1	2 00
Schacht, H W	113	2	4 00
Schenck, E T	310	3	6 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-eighth day of October, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by R. R. Rollins, auctioneer, at salesroom, 522 Market street, San Francisco, on Thursday, the twenty-first day of January, 1869, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. COOLIDGE, Secretary.

Office, Room No. 40 Merchants' Exchange Building, California street, San Francisco. jan2

San Francisco and Castle Dome Mining Company. Location of Works: Castle Dome County, Arizona Territory.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fifth day of November, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm Butterfield	1 to 6 inc	600	$18 00
Wm Butterfield	13	26	78
Wm Butterfield	10	100	300
Wm Butterfield	11, 12 20-ea	40	121
Wm Butterfield	8, 9 100-ea	200	6 00
Wm Butterfield	148	34	1 02
Jas Devoe, Sr	34 to 37 inc	400	12 00
Jas Devoe, Sr	169	34	1 02
Mrs. Annie Devoe	25	50	1 50
Mrs. Annie Devoe	198	6	18
Jas Devoe, Jr	27	10	20
Jas Devoe, Jr	28 to 32 inc	560	15 00
G W Bryant	30, 41, 42 5-ea	15	45
G W Bryant	43	10	30
G W Bryant	45 to 48 inc	100	3 00
G W Bryant	49	50	1 50
G W Bryant	51	10	30
G W Bryant	164	40	1 20
G W Bryant	165	600	18 00
Addison E Head	166	500	15 00
Addison E Head	167	500	15 00
J T Butterfield	169 to 171 inc	100	3 00
J T Butterfield, unissued		900	27 00
R W Washburn	55 to 58 inc	400	12 00
R W Washburn	59	600	18 00
R W Washburn	196	250	7 50
N S Knowlton	181	400	12 00
N S Knowlton	191	50	1 50
Alfred Stebbins	188	500	15 00
Robert Apple	161	250	7 50
Robert Apple	192	250	7 50
F H Wells	197	250	7 50

And in accordance with law, and an order of the Board of Trustees, made on the twenty fifth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of Dam & Gladding, auctioneers, No. 320 Montgomery street, on the twelfth day of January, 1869, at the hour of 1½ o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. R. SMITH, Secretary.

Office, No. 428 California street, 3d floor, San Francisco. jan2

Mining Notices—Continued.

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
P Calhon	186	10	$25 00
Wm H Cleveland	313	25	62 50
Mrs Ann G Cummings	255	25	62 50
Jas H Foster	94	100	250 00
Jas H Foster	141	10	25 00
Jas H Foster	142	20	50 00
Jesse Geib	73	25	62 50
Jesse Geib	74	25	62 50
Jesse Geib	75	20	50 00
Jesse Geib	76	10	25 00
Jesse Geib	78	10	25 00
Jesse Geib	79	5	12 50
Jesse Geib	80	5	12 50
S R Harris	294	50	125 00
S R Harris	99	50	125 00
S R Harris	318	50	125 00
Jas Blogg	176	50	125 00
A J Jeghers	3	5	12 50
A J Jeghers	4	5	12 50
A J Jeghers	5	5	12 50
A J Jeghers	6	5	12 50
A J Jeghers	7	5	12 50
August Ludord	244	10	25 00
Dan'l McLeod	290	90	225 00
Jno R Mason	132	10	25 00
Camillo Martin	267	20	50 00
Ford H Rogers	329	65	162 50
Louis Vesarla	319	25	62 50
Louis Vesarla	320	25	62 50

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426, Montgomery street, San Francisco, on the thirtieth day of December, A. D. 1868, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.

Office, No. 414 Montgomery street, San Francisco. dec5

POSTPONEMENT.—The above sale is hereby postponed until Thursday, the twenty-eighth day of January, 1869, at the same hour and place. By order of the Board of Trustees.

jan2 O. D. SQUIRES, Secretary.

Patrocinu and Dolores Silver Mining Company, Onazapares District, State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of December, 1868, an assessment of two dollars ($2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, C. B. Gifford, N. E. corner of Second and Howard streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighth (8th) day of January, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

C. B. GIFFORD, Secretary.

Office, N. E. corner of Second and Howard streets, San Francisco. dec12

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of December, 1868, an assessment of seven dollars and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of January, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of February, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up stairs, San Francisco. d20

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Curtis Palmer	148	10	$10 00
William Brown	14	5	5 00
William Brown	232	10	10 00
William Brown	233	10	10 00
William Brown	234	10	10 00
William Brown	35	10	10 00
William Brown	240	3	3 00
William Brown	276	25	25 00
William Brown	277	45	45 00
Brown & Kent	15	10	10 00
Abigail Brown	20	5	5 00
Abigail Brown	207	5	5 00
M Nolan	266	10	10 00
Daniel Davidson, endorsed to James Wilson	46	10	10 00
George Patterson	53	5	5 00
James S S Robinson	36	10	10 00
F M Ellis	66	1	1 00
H D Scott	71	55	55 00
John Sanquet	138	15	15 00
R Curran	not issued	272	10 00
B Curran	not issued	273	10 00
John Bagnell	77	7	7 00
Matthew Davidson	79	12	12 00
Patrick Carroll	224	10	10 00
P M Wellin	221	5	5 00
Edward Campbell	181	10	10 00
Chas B Montague	120	25	25 00
A J Davis	127	10	10 00
Lott Mulcahy	157	5	5 00
Thomas Fay	158	5	5 00
David M Short	134	10	10 00
Chas Mayer	135	10	10 00
Benjamin C Levy	137	5	5 00
Lazard Godchaux	139	10	10 00
Lazard Godchaux	160	6	5 00
Lazard Godchaux	162	5	5 00
Lazard Godchaux	229	5	5 00
Lazard Godchaux	230	5	5 00
P Cunningham	156	5	5 00
P Cunningham	174	5	5 00
Michael English	152	25	25 00
Frank Mahon	155	25	25 00
Thos McCullough	159	10	10 00
Stephen McGillan	164	5	5 00
Stephen McGillan	165	5	5 00
P J McMahon	170	25	25 00
P J McMahon	183	25	25 00
Jas Barrett	not issued bal 189	25	125 00
Elizabeth Curran	194	10	10 00
Elizabeth Curran	195	10	10 00
N C Briggs	209	10	10 00
F H Moore	210	20	20 00
C B Gregory	214	20	20 00
Henry Eno	212	20	20 00
Henry Eno	278	25	25 00
David Lovell	214	10	10 00
Jacob Martenstein	225	1	1 00
M G Shove	264	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Saturday, the twenty-third day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CURTIS PALMER, Secretary.

Office, No. 87 Stevenson street, between First and Second streets, San Francisco. dec24

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of November, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alpheus Bull	2	213	$109 00
E B. Mott, Jr	6	150	75 00
Geo Mohrel	10	10	5 00
Geo Mohrel	11	10	5 00
Geo Mohrel	12	10	5 00
Geo Mohrel	13	5	2 50
Geo Mohrel	14	5	2 50
Silas Garber	19	10	5 00
Jas P Wheeler	30	50	25 00
Jas P Wheeler	31	50	25 00
Jas P Wheeler	32	50	25 00
Jas P Wheeler	33	50	25 00
Jno Vail	34	20	10 00
J J Flint	37	20	10 00
I L Requa	38	50	25 00
I L Requa	39	50	25 00
I L Requa	40	51	25 00
I L Requa	41	50	25 00
J L Van Rokkelen	48	4	2 00
L A Booth	49	50	25 00
L A Booth	50	54	27 00
L A Booth	51	100	50 00
J Riggs		4	2 00
McFarland		16	8 00
Sarah Snyder		2	1 00
N M Baxter		20	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. C. Merrill & Co., auctioneers, No. 234 California street, San Francisco, California, on Saturday, the second day of January, 1869, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

ENOS TAYLOR, Secretary.

Office, No. 226 Clay street, San Francisco. dec19

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The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

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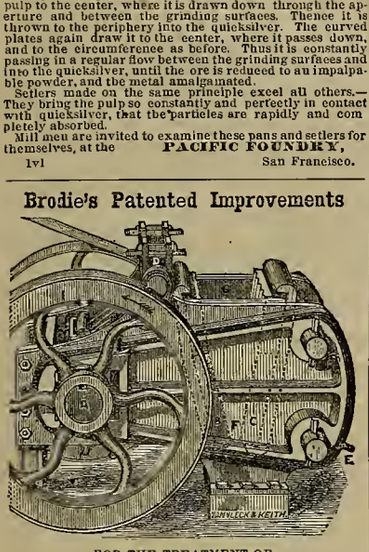

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A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforden on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

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3v13l SAN FRANCISCO.

GLASGOW Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

21v16-3m W. McKINDLE, Manage.

Removal.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

1uv14qr

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

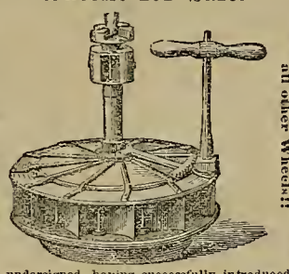
8v13-1y Stove Store, No. 1 Clay street, below Davis.

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

Patent for Sale.



The undersigned, having successfully introduced the

Leffel American Double Turbine Water Wheel

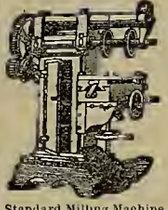
On this Coast, and owning the Patent for the whole Pacific Coast, viz: The States of California, Nevada and Oregon, and the Territories of Arizona, Washington, Idaho, and Western Montana, wishes now to dispose of the Patent, with stock of Wheels on hand, Patterns, etc., etc.

A Company organized and prepared properly for the construction of these Wheels, to supply this Coast and all tributary countries, could make the business immensely profitable.

My object in selling is to enable me to devote myself exclusively to my profession. A. MYERS.

P. S.—If not sold previous to February 15th, then I would enter into an arrangement to manufacture by paying royalty. Address Rev. A. MYERS, Portland Oregon.

26v17-1m



Pipe Vise, with or without Extra Jaw.

Standard Milling Machine.

UNION VISE COMPANY,

OF BOSTON, MASS.

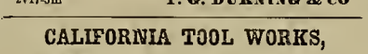
Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

PACIFIC FILE WORKS,

No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**

CALIFORNIA TOOL WORKS,

Blacksmith and Machine Shop,

HAS REMOVED

To 143 Beale St., bet. Mission and Howard,

SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Imported Tools, if too hard or soft, re-tempered to give satisfaction. REAPER AND MOWING KNIVES; complete sections always on hand, or will be made at the shortest notice. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. All work warranted. Prices reasonable.

21v17-qy **J. WEICHHART, Proprietor.**

IMPORTANT TO WOOD WORKERS.

GEAR'S COMBINATION PATENT,

Variety Molding and Planing MACHINE.

THIS STANDARD MACHINE IS INDISPENSABLE IN any establishment working Wood by machinery. Recent great improvements render it complete for

All kinds of Irregular and Straight Work

in hard or soft wood, Straight, Waved, Circular and Elliptical Moldings, Spiral Work, and all Irregular Forms, thus saving to the mechanic the cost of several machines to effect the purposes accomplished by this alone. It does not stop at cutting the edges and sides of timber, but operates equally well upon the ends, cutting them into any required form with the same facility that it does the sides. Any stop without it lacks one of the most USEFUL AND PROFITABLE TOOLS now used. It is worthy of the attention of all HOUSE, CARRIAGE, SHIP, BOAT and CAR BUILDERS, FURNITURE and CABINET MAKERS, MILL PROPRIETORS, PATTERN MAKERS, etc., and of all others who desire to make a profitable business from a small investment. Every machine is thoroughly tested at the manufactory and warranted. Further information furnished on application. FULLER & CO.,

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

ELLERY'S PATENT India Rubber Cement and Paint

—FOR—

TIN, IRON AND METALLIC ROOFS,

Iron, Brick and Wooden Buildings,

SHIPS, STEAMBOATS, STAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

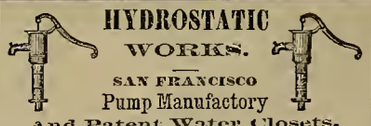
GEO. T. BROMLEY, Agent,

Battery street, corner Jackson,

24v17-3m San Francisco.

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is less to remit by draft, or order, on some San Francisco bank or drm's

HYDROSTATIC WORKS.



SAN FRANCISCO
Pump Manufactory
And Patent Water Closets.

M. D. LASSWELL,

No. 747 Mission Street, bet. Third and Fourth.

House Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired. Hose of all sizes, Couplings and Nozzles, Roses and Rose Stands, and all kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.

I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single acting Brass Pumps, similar to the Haden & Sanders Brass Pumps. I am also making a very superior Pump to any in this market for windmills, single-acting. I am making four different kinds of double acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered in any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country.

I have invented and am making a superior double-acting Force Pump, called the GOLDEN STATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom.

This Pump received the **Silver Medal** and highest premium at the Mechanics' Fair, also the highest premium at the late State Fair. At the San Jose Fair my Hydraulic Force Pump received the First Premium, and four other Pumps each a diploma.

Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere.

I also keep all kinds of DOUGLASS and other makers' Pumps on hand. 11v17-tf

IMPORTANT TO LUMBERMEN.

ANDERSON'S

Patent Muley Saw Hangings.

These Mulays will cut FIFTY PER CENT. MORE LUMBER PER DAY than any other Mulay in use, with fifty per cent. less power. They are very durable, and easily kept in order, and warranted to give satisfaction. No Mulay Mill should be without them, as they will pay for themselves in a very short time. No other mode of manufacturing Lumber can compete with the Mulay Saw with this improvement. Send for circular. FULLER & CO.,

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Portable Engines.

The Swamscot Co's (warranted equal to any manufactured, may be seen in use in this city), PORTABLE and STATIONARY STEAM FIRE ENGINES, STEAM PUMPS and ROTARY PUMPS, and WOOD WORKING MACHINERY of every description, at Eastern prices. Address W. O. M. BERRY & CO., 511 California street, San Francisco.

26v17-3m

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CONTINUE TO

USE HUCKS & LAMBERT'S

CELEBRATED

H & L Axle Grease,

To which you have given so decided a preference for the last

FOURTEEN YEARS,

It is the only reliable article

IN THE MARKET

Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.

Be sure and ask for the H & L brand, and see that the

TRADE MARK H & L

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NONE OTHER IS GENUINE.

FOR SALE IN EVERY STATE IN THE UNION.

The Oakland Daily Transcript,

A BIT PAPER.

The Largest Circulation in the County.

Advertisements in the Transcript will reach every part of Alameda County.

RATES FOR ADVERTISING

VERY LOW.

The Chili Exposition.

THE UNDERSIGNED WOULD CALL THE ATTENTION of the manufacturers of California to the National Exposition to be held during the coming spring in Valparaiso, Chili, next to California, is the most important country on the Western Coast of America. And this Exposition cannot fail to create a demand for our staple manufactures, if they are well represented. The writer has resided for some years in Chili, and is familiar with its people, business and language; is a practical mechanic, and proposing to visit the Exposition, offers to take charge of machinery or other material that parties may wish to send thither, and pledges himself faithfully to bring before the public of Chili their respective merits. He can be seen daily, at his office, No. 49 Monigomery Block. Prompt action is necessary.

DAVID R. SMITH,
Civil and Mechanical Engineer.

REFERENCES—Hanscom & Co. (Etna Iron Works); A. S. Hallidie (President Mechanics' Institute); Lynch & Andrade.

San Francisco, November 21st, 1868. 34v17-tf

CHANGES IN HYDRAULIC MINING.—Hydraulic mining, so far as small companies, or a limited amount of capital is concerned, is undergoing a change. Seven or eight years ago the number of companies employed in this branch of mining in Nevada County, was twice, and perhaps three times as large as it is now. Then a hundred or two of dollars was sufficient, in many, if not most cases, to get claims in working order, and to make a beginning. Now the case is more than reversed, and heavy investments of labor and capital are required.

To work shallow diggings a smaller amount of water was necessary, also a less amount of hose and iron pipe. As miners have approached toward the center of gravel hills or ridges, the hanks have become higher, while no more gold can be obtained from a given area of surface. It makes a wonderful difference to the hydraulic miner whether he has to pipe off a hundred square feet of surface with a perpendicular depth of twenty-five feet, or whether to get the same amount of surface he has to wash down from 100 to 200 feet of bank. It necessitates the use of from four to eight times the power to produce as much gold within the same time in the latter case as it did in the former. As nearly all the gold is found on, or within a few feet of the bedrock, the bottom has to be reached before anything like good pay can he found. At Blue Tent, miners have been unable to reach the bedrock yet, and as a consequence the claims there have never paid large dividends. Men with limited means, having deep diggings, must either sell to capitalists or allow their claims to remain unworked. In some instances small claims are being consolidated, or several companies are being merged into one, and by a concentration of capital and labor they are able to extend their mining into deeper gravel. Where fifty inches, and as many feet of pressure were sufficient, five or six times as much water and three times the pressure is now needed. This difference must certainly continue to increase for years to come. Greater hydraulic power, and other agencies more powerful than common powder, will have to he used in order to work successfully. Companies with a capital of from ten, twenty or a hundred thousand dollars will be the rule, and claims worked with less sums will be exceptions.—*Nevada Gazette, Dec. 11th.*

FRENCH LEATHER.—There is no doubt that French leather is the best in the world. It is all tanned,—says the correspondent of the *Chicago Republican*,—in the good old way. The same writer goes on to describe the process, and the points in which it differs from the one employed by American tanners. He says: "The hides are first thrown into a vat of lime water, where they remain until the hair is loosened, then they are taken out, the hair removed, and the hides put to soak in the river to remove the lime. After this they are scraped and carried to vats, where they are covered with 'juice of tan'—that is, water in which tan bark has been soaked, until the solution is as strong as possible. After three or four days, the hides are again removed and scraped, and put into the vats, where the process is achieved. Here we find the first essential difference between the system of America and the French. In America, the hides are put into the vats with a good deal of water – here they are put in and packed firmly in the vats dry. Then, when the vat has been filled up over them with three or four feet of tan, a few pails of 'juice of tan' is poured over, hardly enough to moisten the whole mass.

The hides remain in these vats for at least six months—sometimes two or three years, the longer the better. For first class leather a year is required. Seven to ten per cent a year is added to the value of the leather by resting in the vats up to four years, after which time there is no further motive for letting it remain, as it has absorbed all it can contain of the properties of the tan. After coming out of the vats the leather is scraped, rolled, dried and curried; but all these are operations that have no influence on the durability of the leather, being simply matters of ornamentation and finish. The secret of the excellence of French leather is in these three observances:—1st. Using strong tan, *i. e.*, the bark of *young* trees. 2d. Packing the leather in the vats dry, and wetting the least possible. 3d. Letting the leather stay a long time in the vats.

CEMENT QUARRIES.—On several farms near Benicia, the cement rock furnishing the material for the Benicia Company, is quarried. This is better than many quartz mines, as it always pays $4.50 per ton, dug out and delivered at the cement mill. The Benicia cement business is now an established success.

MECHANICAL TASTE—ENGLISH AND AMERICAN.—The following is part of an article in the *Scientific American:* When a prominent English mechanical periodical chooses to interpolate in a mention of a valuable American invention, favorably noticed, the statement "that what will please an American engineer will not satisfy *our* more refined mechanical tastes," we believe the writer is influenced by his national prejudices rather than by the facts. We are not prepared to acknowledge that the English have more refined mechanical tastes than the Americans, or that English mechanics show more refinement either of taste or workmanship than our own. Indeed, our observation inclines us to a very different opinion. If refinement of mechanical taste has anything to do with grace of form, proper distribution of material, strength without clumsiness, and grace without meretricious ornamentation, we believe American mechanics are not surpassed. In fact, English machinery of every description appears clumsy where it should be only strong, and the material is wasted to make a show of strength where this grand element would exist without this waste. So in the form or shape of the machine or its parts, the show of strength with cumbrousness seems to be considered by English mechanics as better than the reality with grace of form. If this is a refined mechanical taste our English cousins are welcome to it; but where real strength, power, availability, and utility can be united to gracefulness of form and proper proportions, we prefer the sort of mechanical taste that is competent to produce it, and that we believe the works of our American mechanics fully prove they do possess.

SIMPSON DENTAL RUBBER.—The trial of the case involving the question whether the manufacture of the article above named is an infringement of the Goodyear patent, has resulted in favor of the plaintiffs, and an injunction has been issued.

CALIFORNIA
BUSINESS UNIVERSITY
204 Montgomery Street.
Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
17v17-tf3p E. P. HEALD, San Francisco.

American, Waltham, Watches—The Best, The Cheapest.

Recommended by Railway Engineers, Conductors and Expressmen, and the most exacting class of watch-wearers, as superior to all others for strength, steadiness, accuracy and durability.

Unscrupulous importers occasionally place a worthless Swiss imitation in the market. To avoid imposition, the purchaser should invariably demand a certificate of genuineness.

For sale by all respectable dealers.

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Agents for California,
San Francisco, Cal.
24v16eow

HENRY CAREY BAIRD,
Industrial Publisher,
No. 406 Walnut Street, Philadelphia.
HAS RECENTLY PUBLISHED

A Practical Guide for the Perfumer; being a New Treatise on Perfumery the most favorable to the Beauty without being injurious to the Health, comprising a description of the substances used in Perfumery, the Formulæ of more than one thousand Preparations, such as Cosmetics Perfumed Oils, Tooth Powders, Waters, Extracts, Tinctures, Infusions, Spirits, Vinaigres, Essential Oils, Pastels, Creams, Soaps, and many new Hygienic Products not hitherto described. Edited from Notes and Documents of Messrs. Debay, Lunel, etc., with additions by Professor H. Bussenec, Chemist. 12mo..... $3 00

Cabinet Maker's Album of Furniture: Comprising a Collection of Designs for the Newest and Most Elegant Styles of Furniture. Illustrated by 48 large and beautifully engraved plates. In one volume, oblong..... 5 00
The plates of this beautiful volume comprise designs for bedsteads in great variety; chests of drawers; wardrobes; dressing bureaus; tables for the chamber; work-tables; extension dining tables; card and chess tables; parlor tables, Louis XV. and other styles; office tables; chiffoniers; ladies' and other secretaries of different forms and styles; toilet tables and glasses; desks; book-cases; sideboards, etc., etc.

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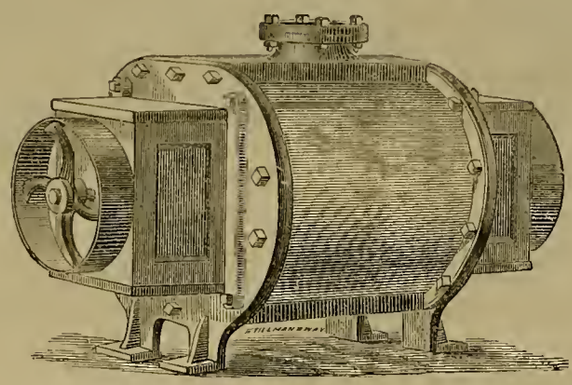
The plates in this volume comprise designs for sofas, arm and other chairs, stools, tabourets, prie-dieu, tables, chests of drawers, wardrobes, chimney-pieces, side-boards, pier tables, etageres, desks, book-cases, etc.

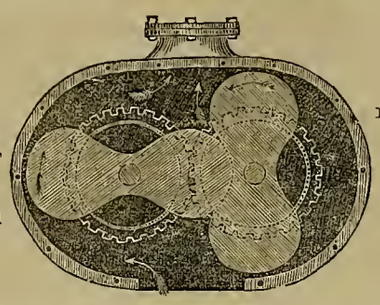
A Practical Guide for Puddling Iron and Steel.—By Ed. Urbin, Eng. of Arts and Manuf. A Prize Essay read before the Association of Engs. Graduates of the School of Mines, of Liege, Belgium, 1855-6. To which is added a Comparison of the Resisting Properties of Iron and Steel, by A. Brull. From the French, by A. A. Fesquet, Chemist and Engineer. 8vo., cloth..... $1 00

☞The above, or any of my publications, sent free of postage, at the publication prices. My new and enlarged CATALOGUE OF PRACTICAL AND SCIENTIFIC BOOKS, 56 pages, 8vo, is in press, and will be sent free of postage to any one who will favor me with his address. 20v16tf

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.
Awarded the First Premium at the Paris Exposition.



ADAPTED FOR Smelting, Foundry, Mining and Steamships.



REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP & BARGION,
4v16 3m Globe Iron Works, Stockton, Cal.

Scientific Churn.

Warranted to make Butter, from sweet or sour milk or cream, in from
TWO TO FIVE MINUTES.

Having sold the Patent Right of David W. Seeley's "Scientific Churn" for all of the territory west of the Rocky Mountains, except one half of Oregon, and the counties of
Monterey, Santa Cruz, Santa Clara, San Mateo, Alameda, Marin, Sonoma, Solano, Yolo, Sacramento and San Joaquin,
To McCONATHY & KINCAID,
OF PACHECO,
PARTIES WISHING TO PURCHASE
State or County Rights,
Will please apply to them.
J. N. SEELBY.

State or County Rights, or Churns, for sale by
McCONATHY & KINCAID,
PACHECO, CAL.
San Francisco, Dec. 3, 1860. 24v17-1m

A NEW PAPER
Will be published on SUNDAY NEXT, November 1st, to be called
THE SPIRITUAL LIGHT.
Published (for the present) Monthly.
It is especially designed to promote the cause of SPIRITUALISM, and assist in the discussion and investigation of all subjects pertinent thereto; which will naturally include Religion, Philosophy, Ethics, Morality and Universal Liberty.

TERMS OF SUBSCRIPTION.—One copy 1 year (invariably in advance) $1; Three copies to one address 1 year, $2 50. For convenience of remission, Greenbacks will (for the present) be received at $1 25 to the dollar in gold—we hope soon to be able to receive them at par.
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A copy will be sent gratuitously on application to the publisher, to all places where one cannot be seen at the Bookstores. Address GEO. C. W. MORGAN, Editor and Proprietor, 472 Harrison street, between Third and Fourth street; or, 1578 Post Office, San Francisco. 18v17t

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Constitution and By-Laws
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Mining and Prospecting Companies
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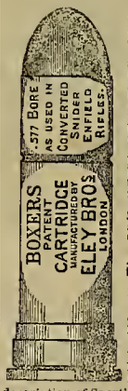
[Orders from the interior faithfully attended to.

Eley's Ammunition.



These Cartridges are made in three sizes, viz., .577 (or Snider Enfield) bore; .500 (or half-inch) bore; and .451 (or small) bore
These Cartridges have been adopted, after careful comparative trials against all other descriptions, by HER MAJESTY'S WAR DEPARTMENT, as the Standard Rifle Ammunition for the BRITISH ARMY, and are not only used exclusively for the Snider Rifle, but are adapted to all other systems of military BREECH LOADING RIFLES.
They are the cheapest Cartridges known, carrying their own ignition, being made wholly of metal, are water-proof and imperishable in any climate.
Boxer Cartridge Cases (empty), of all 3 sizes, packed with or without bullets, and machine for fastening same in Cartridges.
Makers of BOXER CARTRIDGES. .451 bore for Revolving Pistols, in use in Her Majesty's Navy.
PIN CARTRIDGES for Lefaucheux Revolvers of 12 M, 9 M. and 7 M, bore.
CENTRAL FIRE and PIN FIRE CARTRIDGES, for all sizes of Guns, Rifles and Revolvers.
Double Water-Proof and E. B. Caps. Wire Cartridges for killing game at long distances. Felt Waddings to improve the shooting of guns; and every description of Sporting and Military Ammunition.
Wholesale only.
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Novelty and Usefulness Combined.
Wilson's Prepared Solder
Dispenses with the Soldering Iron.

It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire
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BULLION MELTED AND ASSAYED, THE CORRECTness of which is guaranteed in every respect. All kinds of Ore and Mineral tested, assayed and analyzed in the most satisfactory manner. Refers by permission to W. C. Ralston, Cashier Bank of California; Messrs. Ploche & Bayerque, Wm. M. Lent, John D. Fry, E. Cahill & Co., A. K. Grim, President Pacific Union Express Co.; John M. Eckfeldt, M and R U. S. B. Mint; Hale & Norcross S. M. Co., and the principal mining companies on the Comstock Lode. 25v17-tf

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ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.
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San Francisco March 6, 1865. 11v10-tf

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PROFESSOR WURTZ,
Who is the Inventor and Patentee of the new and wonderful use of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of
SODIUM AMALGAM.
All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Reburn Pan, for working 1,000 or 20-lb. charges of material for experiments. purposes. 3v17

G. W. STRONG,
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14v15qr.

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HAT MANUFACTURER
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Hats and Caps
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CHR. CHRISTIANSEN, President.
B. R. TISCHLER, Secretary 20v17-3m

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Mining and Scientific Press Annual Circular.

No. 414 CLAY ST.

San Francisco.

1869.

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DEWEY & CO.

A. T. DEWEY. W. B. EWER.

CALENDAR FOR 1868.

1868.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
JAN.							4
	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
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FEB.							1
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MAR.	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
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APR.				1	2	3	4
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JUNE.		1	2	3	4	5	6
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1868.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
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SEPTEMBER.

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No. 414 CLAY ST.

San Francisco.

1869.

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1870.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
JAN.							1
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
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MAR.			1	2	3	4	5
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JUNE.				1	2	3	4
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1870.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
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NOV.			1	2	3	4	5
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DEC.					1	2	3
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	25	26	27	28	29	30	31

U. S. Stamp Duties.

[INCOMPLETE LIST.]

Agreement or Contract, or renewal of same	$0 05
Bank Check for whatever amount	0 02
Bill of Lading to foreign ports (except British N. Am.	0 10
Bond of Indemnity, each $1,000 or part	0 50
Bond for Executing Duties of any Office	1 00
Certificate of Stock	0 25
Draft at Sight	0 02
Draft not at Sight, each $100 or part	0 05
Deed for any Realty, each $500 or part	0 50
Lease or Assignment of same, not over $300	0 50
Lease above $300, each added $200 or part	0 50
Mortgage or assignment of same, over $100 to $500	0 50
Mortgage, each added $500 or part	0 50
Notes, each $100 or part	0 05
Power of Attorney to sell Stocks, collect dividds, etc.	0 25
Power to sell or rent Real Estate	1 00
Power to Collect Rents	0 25
Protest of Note or Draft	0 25
Receipt for over $20	0 02

Currency Table.

The following Table shows the relative value of a Currency Dollar to Coin at rates of premium from 110 to 149:

110	90⅞	130	77
111	90	131	76⅜
112	89⅓	132	75⅞
113	88½	133	75⅛
114	87¾	134	74⅝
115	87	135	74
116	86⅛	136	73½
117	85½	137	73
118	84¾	138	72½
119	84	139	72
120	83⅓	140	71⅓
121	82⅝	141	71
122	82	142	70⅝
123	81¼	143	69⅞
124	80⅝	144	69⅓
125	80	145	69
126	79⅜	146	68½
127	78¾	147	68
128	78⅛	148	67½
129	77½	149	67

Distances from San Francisco.

	Miles.		Miles.
Acapulco, Mex	1,340	New Orleans, via Panama	6,140
Auburn	152	Oakland	7
Benicia	30	Oroville	196
Callao, Peru	3,900	Olympia, W. T. (str.)	855
Cape Horn	6,350	Pacheco	33
Calcutta, via Hawaiian Islands	10,400	Placerville	167
Cisco	200	Point Conception (str.)	290
Colfax	171	Portland, Or. (str.)	642
Colusa	192	Panama, C. A	3,280
Copperopolis	155	Red Bluff (str.)	247
Cumberville	183	Redwood	31
Crescent City (str.)	280	Rio Janeiro, via C. Horn	8,323
Diablo Coal Mines	44	Rio Vista	73
Downieville	236	San Andreas	170
Dutch Flat	184	San Juan South	91
Farallone Islands	29	San Jose	51
Folsom	139	San Leandro	15
Fort Yuma	732	San Mateo	21
Genoa	141	San Quentin	12
Geyser Springs	110	San Rafael	12
Great Salt Lake City	854	Santa Clara	47
Guaymas, Mex	1,710	Seal Rock	6
Havilah	450	Silver Mountain	257
Half Moon Bay (str.)	46	Sonora	137
Healdsburg	80	Sonoma	52
Hongkong via Hawaiian Islands	6,930	Stockton	117
Honolulu, H. I	2,100	Santa Cruz (str.)	80
Humboldt Lake	340	San Luis Obispo (str.)	200
Humboldt Bay, Cal	227	Santa Barbara (str.)	283
Humboldt Mines	424	San Pedro (str.)	373
Jacksonville, Or. (str.)	463	San Diego (str.)	456
Lake Tahoe	225	San Blas, Mex	1,470
La Paz, Mex	1,300	Suisun	50
Los Angeles (str.)	480	Sacramento (str.)	121
Liverpool, Eng	13,100	Salem, Or	710
Mare Island	28	San Bernardino	504
Mazatlan, Mex	1,490	Southampton, via Panama	7,810
Manzanillo, Mex	1,570	St. Louis, Mo	2,279
Mendocino City (str.)	128	Sitka, Alaska	1,480
Monterey (str.)	92	Tomales	45
Melbourne, via H. I	7,200	Tucson, Arizona	1,013
Marysville	171	Tahiti, S. I	4,490
Mokelumne Hill	178	Vallejo	28
Mariposa	211	Visalia	308
Napa	50	Victoria, V. I	758
Nevada City	182	Valparaiso, Chili	6,210
New Almaden	67	Warm Springs	37
New York, via C. Horn	14,000	Weaverville	365
New York, via Panama	5,149	Yreka	400
New York (overland)	3,417	Yosemite Valley	247

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A patent right is personal property, and is assignable, but cannot be seized and sold on execution.

A caveat is a description of the invention designed to be patented, lodged in the Patent Office before the patent is applied for, and while the inventor is perfecting his design. When *properly* made, it operates as a bar to applications respecting the same invention from any other quarter; but when improperly done, it is inoperative by reason of such defect. The Patent Office always returns a receipt for caveat papers, but does not look to point out its incorrectness, unless there be some glaring defect.

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	Letters, ½ oz.*	Newspapers.
Acapulco (Mexico)	10	2
Algeria, French mail	30	2
Argentine Republic, by packet fm N. Y., 23d of each month (¾ oz., 18c)	25	4
do do via France, Fr. mail from Bordeaux (¼ oz., 15c)	30	6
Aspinwall (or Panama)	10	4
Australia, via Panama	22	6
do by private ship	3	
Austria (See German States below)		
Belgium—Same as German States		
British N. Am. Provinces, within 3,000 miles	6	2
do do do over 3,000 miles	15	2
do do do Dominion of Canada	6	2
Central America, Pacific Slope	10	2
China, by steamer from San Francisco	16	2
Chili	24	
Cuba	10	
East Indies, via China	10	
France (¾ oz., 16c.)	30	2
German States and free cities, including Austria, Bavaria, Baden, Bremen, Brunswick, Frankfort, Hamburg, Hanover, Lauenburg, Lubec, Mecklenburg, Oldenburg, Prussia, Saxe-Altenburg, Coburg-Gotha, Meiningen, Weimar, Saxony, and Wurtemburg, by North German Union	10	3
do by closed mail via England	15	4
Great Britain (Ireland, Scotland and Wales)	12	2
Holland	15	4
Italy, direct closed mail via England	15	4
Italy, via North German Union direct	14	7
Japan, via steamer from San Francisco	10	2
Mexico	10	2
Nicaragua, Pacific Slope of, and Panama	10	2
New Zealand	22	6
Poland	20	
Roman or Papal States, via N. German Union	14	7
Russia	20	5
South American States, Atlantic Coast, via Eng.	24	4
do do do Pacific Coast	34	6
Sandwich Islands, by steamer	10	2
Spain, via England (¾ oz., 22c)	24	6
Sweden, via North German Union	16	8
do closed mail via England	21	9
Switzerland, direct closed mail via England	15	4
West Indies, Br. & Danish mail, via St. Thomas	10	2
West Indies, North British mail	18	

*Most of these rates require prepayment.

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SAN FRANCISCO, SATURDAY, JANUARY 9, 1869.

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The Imperial Silver Quarries Company.
SCIENTIFIC MISCELLANY—The Florida Shell Heaps; Wonders of the Microscope; Meteors and Stone Showers; Salt and Radical; Platinum in Vinegar Making; Earthquakes.
ENGINEERING MISCELLANY—Road Making; Trial of a Cheap Rail; Russian Engineers sent to America.
MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Arizona, Colorado, Idaho, Nevada, New Mexico, Oregon, and Wyoming.
San Francisco Mining Shareholders' Directory.
San Francisco Metal Market.
San Francisco Market Rates.
Notices to Correspondents.
Stock Prices—Bid and Asked.
New Incorporations.

MACHINE FOR MAKING THE GIANT POWDER CARTRIDGES.—At Thomas Varney's office, No. 127 First street, may be seen a very serviceable and ingenious machine, whereby much labor and time can be saved in the making of cartridges—of from six to eight inches in length, and from half an inch to an inch in thickness, such as are used in blasting with the Giant Powder. It is an upright tamping or ramrod, which is alternately raised and dropped very rapidly by means of a little revolving wheel, and is so placed that its lower end reaches into a paper cartridge case. The rod is hollow, the powder falling into it from a hopper above, and feeding through it into the cartridge, through an aperture at the bottom which is semi-circular; the other half of the semi-circle being closed and serving as a tamping surface. A motion like that of a revolving stamp, packs the contents evenly. In less than a quarter of a minute, a nicely executed solid cartridge is completed in this manner. It would be very inconvenient indeed, to make cartridges with Giant Powder in the ordinary way, as the material is somewhat sticky. The degree of firmness required in the packing is regulated by tension screws, connected with the support on which the cartridge rests. Hand or steam power may be used.

The Giant Powder Company are extending their operations, finding an increased sale for their powder. At the New Almaden quicksilver mines twenty men are working with it. At Redington's mine, near Clear Lake, it is to be introduced; and numerous mines across the Sierra have been using it to some extent, with a view to testing its comparative economy.

AMERICAN AFFAIRS AND THE PACIFIC RAILROAD IN CHINA.—The new American Minister, Mr. Browne, accompanied by Commissioner Poston and J. Wells Williams, Secretary of Legation and Interpreter, has just presented his credentials at the Chinese Foreign Office, says a Peking correspondent of the last steamer. He was received by Prince Kung, uncle of the Emperor and recognized head of the Government during his minority, assisted by five Councillors of the Empire; and the indications are that cordial relations will be maintained with the Ta-Tsing Empire. Prince Kung inquired with much interest how the Pacific Railroad was progressing.

Collier's Metallic Pressure Piston Packing.

This invention relates to the packing used to render piston-rods or propeller shafts steam and water tight, and has for its object the construction of a metallic packing, which shall be operated upon by the gas, vapor or liquid exerting the pressure, in such a manner as to form a perfectly tight joint. It also consists in so forming the gland of the stuffing box, that it shall serve as a support and guide for the rod and and shaft, and at the same time afford great facility for lubrication.

The query has occurred, probably, to every one, how it is that the engineers can manage to pack piston-rods connecting with the interior of a steam cylinder, so tight, without the extreme friction which would retard the motion of the piston very materially, as to prevent that volatile substance, under its great pressure, from forcing itself out alongside of the sliding rod. Our illustration, with a few words of explanation, will give an idea of how this is done. The large disc (on which the letter A rests) represents merely the left hand end of a steam cylinder, which, if it were represented entire in the drawing, would continue on, of the same dimensions, towards the right. E, E, is the piston-rod, (cut off smoothly at the ends in the model,) which slides through the cylinder's ends; that part to the left of the disc or cylinder's end, between F and D, is the stuffing box, and cage, the former fitting into the latter; and H represents the oiling cup, on the top of the oiling box. F is the end of the cage.

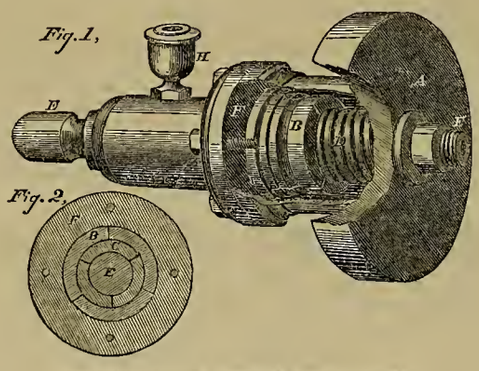
The stuffing box is formed in the ordinary manner, with the exception that instead of entering the cage, the body of the gland projects outward, and forms a support for the rod, and at the same time serves as an attachment for the oil cup, H, which can be easily kept full.

B B are the metallic packing rings, within the cage; each made of three parts or segments and lying over similar rings underneath them, in such a manner as to break joints—as is more clearly represented by B and C in the transverse section below and to the left. It is by their means that the packing is effected so successfully, and without undue friction. The segments are faced to fit the inner end of the gland perfectly tight, and are kept in close contact when the steam or pressure is not on, by a spiral spring D, within the cage.

Two small openings, now, connect the interior of the cage with the source of pressure—as the cylinder in an engine or pump, or the water outside of the ship if it is for a propeller shaft—so that the greater the pressure, the closer are the rings forced against the rod and inner face of the gland.

In any case the packing is to be applied to a water or air pump, so that the pressure will come from the liquid, or the gaseous substance, as the case may be.

One of the most important uses of this packing is in the stuffing boxes of propeller shafts, in which case the openings connect with the outside water, the pressure on the rings depending upon the depth to which the shaft is submerged.



COLLIER'S METALLIC PRESSURE PISTON PACKING.

This device is simple, and not easily got out of repair; is perfectly efficacious and self-regulating, and in the case of shafts, especially, will do away with the great expense of repairing the derangements of the stuffing box which now so frequently occur.

Collier's Patent Metallic Pressure Packing was patented through the MINING AND SCIENTIFIC PRESS AGENCY Oct. 13th, 1868. The principal foundries will furnish the same. Collier's address, for full particulars, is Sacramento City. The inventor is an enterprising young California mechanic, and his invention is one of those matters of operating detail, which are especially worthy of consideration as contributing to the perfection of machinery, and at the same time rendering its use more economical and more permanently lasting.

ST. DOMINGO.—Prof. W. M. Gabb, formerly connected with the California State Geographical Survey, has been appointed State Geologist for St. Domingo, by the Government of that Island. St. Domingo is said to abound in gold placers. Minerals of value are said to be found there in considerable quantities.

Gold Mining and Progress in China.

The working of the Chefoo gold mines has been summarily closed by orders from the different foreign Ministers at Peking, issued to the Consuls, forbiding the issuance of passports, and declaring that "mining" is not a right guaranteed by treaty.

As the Chinamen have the freedom of our own country subterraneously, it would seem that our relations with China are left on an unequal footing in that respect. Ross Browne will, no doubt, talk the matter over with Prince Kung in due time.

An English official, who lately visited the Pengtu fields in the Shantung Province, says he saw a nugget weighing an ounce avoirdupois, and examined several veins, some two inches thick, the general average of which would be about $100 in gold from the working of one ton of earth.

There are said to be three great questions in China just now—the missionary question, the gold question, and the tonnage duty question. Two attachés of the London Mission, have lately returned to Hankow from a tour of 3,000 miles in the extreme Western part of China. They say that they were treated with the utmost courtesy and kindness wherever they journeyed. They found the Roman Catholic converts by the thousand in every village in Sz Chuan, and the crosses literally planted on every hill-side; they also found everywhere traces of coal, iron and other minerals, and proved that, so far as the mass of the people were concerned, the white race would be received with open arms. The ramifications of the ill-feeling existing towards Christianity in some parts may be traced throughout the whole Empire as springing from the same class, the *literati*, who should lead the people towards the true development of China, but who seem to fear that with the advent of foreign ideas the power they now hold will slip from their grasp. A difficulty recently occurred at Yang-Chow near Chinkeang on the Yangtze-Kiang, between a Chinese mob and an English missionary. The mob, headed by the *literati*, destroyed a missionary building and maltreated the inmates, posting placards in the vicinity warning foreigners to leave the Celestial soil under the penalty of death. Three English gunboats went to the rescue, and brought the lax officials to terms.

Baron Richthofen was at last accounts engaged at his geological labors in the province of Shantung. One of the objects of Richthofen's particular attention in China, we understand, is to be the examination of coal mines located suitably somewhere not far from tide water, for shipment of that indispensable material to different parts round the Pacific, especially on our western coast, the work being in the interest of some San Francisco capitalists. The Chinese coal is understood to be of better quality than that of Mt. Diablo and the Gulf of Georgia.

THE stage line between Visalia and White Pine will be opened in February.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

The White Pine Mining District—Its Geographical Position, Elevation and Winter Climate.

BY DR. DE GROOT.

Presuming that the readers of the PRESS are tolerably well posted as to the supposed geographical position and altitude of this district, I will merely remark in regard to the same, that, while neither have been instrumentally determined, it is believed to lie in latitude 39° 20′ N., and in longitude 115° 20′ W. from Washington; its altitude varying from 7,000 to 11,000 feet above the level of the sea. Its distance and bearing, taking this place as its center, is from Austin, E. S. E. 120 miles; from Belmont, N. E. 140 miles; from Hico, in the Pahranagat country, and county seat of Lincoln County, N. N. W. 150 miles, and from Elco, the nearest station on the Central Pacific Railroad, S. 115 miles,—as the toll-road now being built to that point will probably run.

With such an altitude the winter climate must necessarily be cold and snowy, though the present season has proved as yet an exception to this rule, at least so far as the depth of snow is concerned; the successive falls that have occurred, some five or six in number, having amounted in the aggregate to less than two feet. But it is well known, that in four or five winters out of six, the snow often accumulates here to a depth of six or seven feet on a level, drifting so badly that it lies in spots until late the next summer. Still, the isothermal lines crossing this region assign to it a milder winter climate than is possessed by places in the same latitude further east; as well also as a milder one than is common to certain sections of country to the west. It is a notable fact that the snow fall is never by any means so great, nor is the cold believed to be so intense at the same altitude on these interior ranges, as on the Sierra Nevada or on the chains lying east of the Rocky Mountains. Still, every intelligent person here counts on much deeper snow and colder weather than any we have yet seen, before the winter is over; while every considerate one will strive to make provision accordingly.

TREASURE HILL—THE SITE OF THE PRINCIPAL MINES—DESCRIPTION OF ORES, ETC.

This district, which consists of an area of twelve square miles, lies near the north end of the White Pine Mountains, a compact and symmetrical chain further south, but which, at this point, is somewhat broken up, being scattered into isolated hills and ridges, some of them running transversely to its longitudinal axis. Upon one of these eminences, named Treasure Hill, the principal mines in the district are situated; the ledges appearing on every side of it, and extending up its slopes, composed for the most part of huge benches of limestone, from base to summit. This hill, which runs north and south, is about five miles long and 3½ miles broad, measured over its summit; its altitude being about 1,600 feet above the encircling valley at its base, and 9,000 feet above the level of the sea. Almost the entire formation is limestone, consisting of stratified dolomite and calcareous schists. The metalliferous lodes are exceedingly variable in inclination, size and strike, standing at all angles, and running towards all points of the compass, while in dimension, they vary from mere stringers of spar and quartz to ore channels having several hundred feet of lateral expansion. In fact, it is but just to say, that the enclosing walls of many of the deposits are extremely eccentric, lacking often the leading features of regular fissure veins. Others again, are well walled, have a readily recognizable dip and strike, conforming in their main features to symmetrical and well-defined lodes; conditions that it is believed will be found to obtain much more generally at greater depths.

The prevailing ores in the better class of mines are composed of green and gray chlorides mixed with horn silver; many powerful veins located mostly about the base of the hill, carrying a large percentage of lead and copper. The locality, however, most abounding in these and similar metals, is a much higher mountain, and its outlying ridges situate contiguous to Treasure Hill on the west, and known as the Pogonip, or Base Metal Range. Here we find a multitude of lodes, of all sizes, the most of them, however, being large and generally marked by more regular features than the majority of those on Treasure Hill. These veins are heavily impregnated with silver, copper and lead, the latter often being present in such quantity as to constitute the ore an argentiferous galena. This mountain and vicinity, abounding in wood, must soon become the seat of extensive smelting operations, as it is by this process that the greater portion of these ores must be reduced. The value of the silver usually found in the ores of the Base Metal Range varies from $30 to $90 to the ton, the value of the lead being from $50 to $70, and that of the copper very considerable. Besides the above metals, the ores of the Pogonip group contain iron, antimony, bismuth, and arsenic, often one or more of them in notable quantity.

LEADING PECULIARITIES OF THE WHITE PINE MINES.

Without going into details, the salient features of the mines here, and those in which their special advantages over all others yet found in this State reside, may be briefly set forth as follows: The obvious abundance, high grade, easy extraction, and tractable character of the ores. From the explorations already made, though comparatively limited, it is now evident that the quantity of ore to be obtained here at small expense, will prove to be large; the crushings heretofore made equally establishing its highly productive and facile character. The cost of raising ores from the principal mines, after the prices of labor and supplies have been made to conform to the standard obtaining elsewhere throughout the State, will not exceed $4 per ton; extensive contracts having already been entered into for their reduction within the next six months at the rate of $25 per ton; a price that it is believed will next summer more than suffice to cover the then prevailing cost of both transportation and milling. That the expense attending the latter can not long exceed those now prevailing at Virginia, may be inferred from the fact, that there is within a distance of five miles from Treasure Hill, a sufficiency of water to supply a milling capacity of 300 or 400 stamps, driven by steam, with wood enough for their use for at least ten or twelve years, while there are additional and much more ample supplies of both a little further off, but still within comparatively easy distance.

Under these circumstances, it will be seen that while the future wants of this district are tolerably well provided for, the better class of mines can be worked with large, certain, and almost immediately accruing profits; such having been the results of all the attempts heretofore made at working these ores.

While we have not the data for ascertaining the exact amount of bullion thus far extracted from the White Pine mines, it may be roughly set down as approximating $1,700,000. The yield of the ore taken out has varied from $120 to $10,000 to the ton; the whole averaging perhaps $600. The cost of extraction has been small, that of hauling and milling having averaged about $70 to the ton, a portion of the ores milled having been sent to Austin, and a good deal to Newark, thirty miles distant, for reduction. In fineness, the bullion has run from .975 to .992, while it is believed that the average standard may by more careful working, be somewhat elevated hereafter. Heading the list of the more largely and actively

PRODUCTIVE MINES,

we have the Eberhardt and Keystone claims, followed by the Staudford, the Aurora-North, the Hidden Treasure,—the three last named a continuation of the same grand deposit, and occupying the crest of Treasure Hill,—with the Indiana, Genessee, Stonewall, Emigrant, Robert Emmet, and several other claims of less note, situate on Chloride Flat, all of which yield nearly the same character of high grade chloride ores, and every one of which could easily be made to turn out from two to ten times as much ore as is now being raised from them. Some considerable lots of ore are also being extracted from a number of valuable lodes as yet but partially opened; such as the Pocotillo, Copper Silver Glance, Charter Oak, Emersley, and the several Hidden Treasure extensions; lesser quantities being gotten out from still others, situate more remote from the leading mines, and generally at much lower levels; the principal among which, are the Cliff, the Featherstone, the Argyle, the Herman, a group known as the Comstock No. 1 and 2, with the Neptune lode lying between them, and, finally, the Mazeppa, a ledge lying three-fourths of a mile south from the Eberhardt mine, and 600 feet below it. In this ledge, the thickness of which has not yet been ascertained, a streak of extremely fine ore has been laid open; causing, mostly on account of its position, a good deal of excitement, and drawing a multitude of miners into the vicinity, where they are now engaged prospecting, not altogether without encouraging results.

There are, of course, a vast number of small veins here that show what are termed good indications, meaning surface streaks of quartz and spar, often mixed with a little ore—almost always conditions precedent to the striking of valuable deposits below; of claims that do not exhibit even these faint tokens of wealth, there are perhaps a still greater number, many persons making locations without surface signs of ore deposits at all, intending to sink shafts and take the chances of striking the latter or running after them with drifts.

CONCLUSIONS.

From the foregoing it will be seen that the likelihood of developing ore channels, of greater or less magnitude, at every point around and upon every level on Treasure Hill, may be considered good. Omitting the older locations of acknowledged wealth, occupying its southerly slope and summit, if, from its top we descend the easterly side of this eminence, we encounter, lying on the same bench with the Eberhardt, but at a point a mile further north, a band of extremely promising claims; chief among which are the Charter Oak, Emersley and the Pocotillo; the latter, now generally regarded here as one of the very best things next to the Eberhardt in the district. Going still a mile further north, and making an additional descent of three or four hundred feet, we arrive at the Virginia mine, in which the genuine chloride ores exist in a massive form; while at a point three miles south, and on a level 500 feet still lower, we have the Mazeppa, the site of a recent rich and significant strike.

Men who have spent many years, some of them holding responsible positions in the mines of South America and Mexico, occupying formations similar to these, speak encouragingly and even confidently of the prospects of White Pine as a prolific and permanent silver-producing district.

Mr. E. B. Dorsey, an authority that few intelligent mining engineers or experts on this coast will question, and who spent many years actively employed in the famed mines of Chañarcillo, Northern Peru, pronounces White Pine similar in all its leading features to that district; the lodes in which, after being worked with the greatest success for nearly forty years, are still producing at depths of more than 1,600 feet, as largely and steadily as when they were first opened. With assurances from such a competent source, and with so many facts before us tending to their substantiation, there would seem to be a good deal of affirmative evidence as to the probable duration and productiveness of the lodes in this district.

Treasure Hill, Lander County, Nevada, December 31st, 1868.

THE CIGAR STEAMSHIP idea of Mr. Winans is not abandoned, as it appears, though the success of the cigar built in London in 1865 was very equivocal, judging from the facility with which it was dismissed from public attention. Mr. Winans expresses his determination, however, to persevere, as he has good practical and scientific reasons to feel assured that his model is the most perfect one for water navigation, as well as to assure entire safety from storms.

THE suggestions found on another page relating to the construction of brick buildings so as to be secure against earthquakes, come from an old architect and builder, and will be found eminently practical and worthy of attention from those who intend actually to build.

The Merced Falls Wood Manufacturing Company have superceded the Chinese help in that establishment by white operatives, male and female.

Engineering.

A RAILROAD mania has fairly commenced in Oregon.

THE grand canal of China is being surveyed by Capt. Dunlop, of the British steamer Dove.

THE levee from Woodbridge to the crossing on the Mokelumne River has been completed.

A HYDROGRAPHICAL department has been organized for the Chinese Coast, the object being mainly to erect lighthouses.

EVERY department of the Sacramento Valley Railroad Company's works is in active operation.

THE engineers of the Saucelito and Humboldt Railroad Company, were in Santa Rosa recently, engaged in looking out for the best place to cross Santa Rosa Creek.

THE astronomical and triangulation work of the Pacific Coast Survey will be done by Prof. Davidson, while the hydrographical work will be under A. F. Rogers.

RUSSIAN ENGINEERS SENT TO AMERICA. The Emperor of Russia has sent to this country two civil engineers, with instructions to make a complete examination of the operations of the Pacific and other great railways in the United States. The Emperor contemplates building a railroad from China across Asia to the capital of Russia.

THE SURVEYING PARTY, marking out the California and Oregon boundary line, have just been paid off, and several have quit, not wishing to make the trip to the coast this winter, which renders it doubtful if it will be attempted before next season. The coast mountains and passes will be exceedingly difficult to pass, unless the winter proves a very mild one.—*Yreka Union, Dec. 4th.*

TRIAL OF A CHEAP RAIL.—The iron used in constructing the Presidio Railroad is of a new pattern, being simply a plain flat rail, something like the old "strap rail," or "ribbon rail," bent so as to hollow it like a section of tin-eave trough, or the half of the bark of a small tree. This is laid on or over a parallel wooden rail, with the concave side down, and answers the purpose, where only light loads are to be carried, admirably.

OUR report of the proceedings of the N. Y. Society of Practical Engineering, being on the subject of "Modern Improvements in Mining," is placed this week under the head of miscellaneous, though it contains several interesting facts about ancient turbines, which are used in the Orient, and about our river flutter-wheel, used for raising water out of river claims, being identical with Persian wheels of remote antiquity on the Nile, and on the Ganges.

ROAD MAKING.—The *Railway Times* says the common practice in this country, in road making, is wasteful and expensive. The upper soil is removed, and coarse gravel or broken stone supplied to bring up the grade, and the road is then left to be worn down smooth by passing teams and carriages. A waste of power is thus involved, an immense and useless wear of vehicles, loss of time and a great amount of general discomfort. Drainage is seldom thought of, and during the wet seasons, and especially when the frost is coming out of the ground, the roads are nearly impassable. The common remedy for all this is to pile on more gravel or broken stone, and then again commences the destruction of wheels. This useless tax to the owners of horses and vehicles could nearly all be prevented if the roads were properly made, drained and cared for. Proper drainage is the first essential; then the road dressed with gravel or stone should be formed and rolled into proper form to shed water—a very slight incline to either side is all that is necessary—and then you have a road that is easy to horses, and the load is carried with half the power that is expended in hauling over very many of the roads in our suburban towns. Less gravel or broken stone, but more care that it is kept in place and smooth, is what is required. In England and France they are using powerful steam rollers with good results.

Mechanical.

THE CORNISH PUMPING ENGINE.—W. H. G. West, 1st Assistant Engineer, U. S. Navy, sends an article to the *Journal of the Franklin Institute*, from which we extract the following:

"The real causes of the success of the Cornish pumping engine are so simple, that only men of very practical minds discover and appreciate them; and this simple machine remains a mystery even to those who have made its manufacture their principal occupation.

The simplest and cheapest way to pump water, is to force some perfectly smooth substance, without appreciable pores, into the body of water, so that the water may rise a correspondiag amount and flow away. Here we have no friction, no leaks, and, therefore, no loss of efficiency. All the power is utilized. When we add a casing or working barrel with packing, we add friction; when we add valves, we add the work of forcing them open; when we add reciving and delivery pipes, we add friction; when we add turns, we add obstructions; when we contract the pipes or valves, we add thousands of smaller obstructions, and increase the friction, as the square of the speed of the water through the pipes must increase; and when the valves are lifted, they take time to get down again, and water must leak back.

Cornish pumps, well designed, have large pipes. Cornish pumps are packed with soft, elastic hemp packing, or the best substitute at hand, and the cup of the gland is kept full of some fluid lubricating matter.

The valves or clacks of the Cornish pumps are made of large diameter and small lift; they shut quickly, and the leak back through them is correspondingly small. The stroke of the plunger is always long, and the times of leaking back are thereby lessened. There is but one turn in the Cornish pumps—that from the plunger-case to the column."

THE "MOSS-RUBBER" INKING-ROLLER.—A roller which, according to the *Mechanics' Magazine* is destined to supersede that in ordinary use with printers, is the invention of Stephen Moulton, of Bradford, and is thus prepared: "The inventor takes the ordinary vulcanized india-rubber, and reduces it to powder. He then places it in a mold, and subjects it to a second vulcanizing heat, which converts it into a homogeneous mossy substance. It is then covered with a skin of rubber and sulphur, and again subjected to a vulcanizing heat in order to cure the rubber skin, after which the roller is ready for use. The result of this process is an article composed of a homogeneous material of the consistency of moss, which is hermetically sealed in a smooth skin of india-rubber. The advantages possessed by these rollers are important to the printing trade; they are very durable, on account of the unchangeable character of the material; they are unaffected by temperature; are not damaged by use on brass rule; are permanently soft and elastic; seldom require washing, and when washed for change of color are ready for use immediately."

A NINETY-TON CASTING IN THREE HOURS. One of the large blocks of iron to be employed by the Russian Government for fortification purposes, was recently cast at Krupp's iron works, at Essen,—says a Berlin letter,—in three hours and forty-five seconds. The fraction is for the actual time occupied in the casting,—the melting having been done in three hours. In England, the casting of a steam hammer, weighing one hundred tons, requires forty-eight hours.

These large blocks or plates are moved by a hydraulic crane, and with perfect ease. They will not be fastened together, with bolts and screws, but will be made to dovetail into each other. They are to be used in connection with earth embankments.

A YANKEE MACHINE IN ENGLAND.—F. Watkins went to England in 1856 to sell his patent machine for making bolts and nuts. He gave it up after several attempts, and commenced the manufacture of those articles on a small scale. In two years he had all he could do. His works have extended until they now cover twenty-four acres of ground in Birmingham, and employ twenty-five hundred hands. He makes one hundred tons of bolts and nuts per day.

DAMASCUS STEEL.—The Indian damask is made at Lucknow. All the workmen are Persians, one of the manufacturers being known from antiquity. His name is Mirza Hussein Chirazi. The damask consists of three parts silicate of iron, one part cast iron, and two parts very pure iron. These substances are put in crucibles which contain five to forty *miskals* (25 to 200 grams.); the latter are then set in a furnace and kept therein for six days at a strong heat. Such furnaces are made to contain from 10,000 to 12,000 crucibles. When the metal is solidified they are broken to pieces, the iron being brought in an annealing oven and kept therein for forty-eight hours, where it is left to cool slowly. If this precaution is neglected the damask becomes brittle as glass and useless. The damask of Kaswine is made in the same way, but instead of common iron the heads of old horseshoe nails are taken. The damask of Khorassan is superior to those already mentioned. Since the supremacy of Nader-Chah, who destroyed all its ovens, it is no longer manufactured. The damask of Arsindgan, Neres, and Schiras, is sold for an equal weight of gold, there being very little in existence, as all the furnaces of those places have been destroyed long ago and never rebuilt. The damask of Khorassan possesses dark designs and is very brilliant. That of Kaswine possesses a gold-like reflex. The designs are intertwisted, presenting in general a series of circles. The armorers buy the damask, the quality of which they know from long experience. For the purpose of testing it they heat, for instance, a piece to red heat and forgo it then to a length of one foot and a half. If scintillation takes place it is considered of a bad quality, and also when the surface does not present a perfect evenness.

COMPRESSED LEATHER.—The *Iron Age* says that a substance under this name is now made by reducing to a fibrous mass the cuttings of hides and shoemaker's waste, and mixing them with water containing one per cent. of sulphuric acid, until the whole becomes a plastic mass, which is then pressed into molds of the desired size and shape. After drying by steam, it is pressed through rolls glazed on one side and roughened on the other, to produce the grain and flesh sides of the leather. About one pound of glycerine to the hundred weight is added, to render the leather flexible. For many purposes, as for soles and heels of shoes, etc., it is equal to natural leather, and can be sold at one half the cost.

NEW ELECTRIC LAMP.—The London *Mechanics' Magazine* describes a new lamp, exhibited by Mr. John Browning, F.R.A.S., at a recent meeting of the British Association,—which is to be worked by a Grove's battery of only six cells, and is intended for the use of photographers in printing transparencies. In it, the carbon points instead of being pulled a short distance apart, are allowed to touch each other, and are fastened in that position, so that the current has to burn a space between them for itself. A mechanical arrangement causes the contact to be renewed as soon as the wasting away of the points breaks the communication. The electric light is destined to supersede both gas light and the lime light for photographic purposes.

PRECAUTION IN ARRANGEMENT OF MACHINERY.—The *American Artisan*, in an article deprecating the fool-hardy neglect of the most ordinary safeguards against accidents from machinery in motion, which one so often sees, mentions the following instance which came under the notice of the writer: A naked belt running in a horizontal position was arranged at the inner side of a stairway so narrow that two persons could not ascend it abreast, yet men passed up and down these steps many times a day, with the certainty that if an arm touched the edges of the rapidly-moving belt, vein and tendon would be severed as by the contact of a band-saw. This, however, was not all; for the outer side of the stairway had no hand-rail, and should a person lose his balance, in a startled effort to escape if touched by the belt just mentioned, he would be almost certain to fall upon the upper edges of another belt working in vertical planes, and arranged near the outer or open side of the stairway.

Scientific Miscellany.

THE FLORIDA SHELL-HEAPS.—Dr. Jeffries Wyman, who has visited the shell-mounds of East Florida, describes them in the *American Naturalist* as varying in size from circular heaps fifteen or twenty feet in diameter, and a few inches high, to long ridges several hundred feet in length, and having a hight from a few inches to four or five feet; in some cases being as high as *fifteen* feet. They are composed almost exclusively of some three species of shells, the *Ampullaria depressa*, *Paludina multilineata*, and *Unio Buckleyi*. They are distributed over a distance of more than 150 miles. They are generally overgrown with oaks, maples, palmettos, bays, magnolias, etc.; and in several cases with groves of the wild orange, a tree which was probably introduced by the Spaniards. They are unquestionably of human origin. Fragments of pottery, of the bones of various edible animals, and in some cases charcoal with half-formed shells, were found at different depths. Ornaments of bone were found in some of the mounds, and in one a piece of "chipped" flint.

The conclusion arrived at, after careful inspection of dead oak trees lying upon the tops of some of these mounds, and which must have sprouted, grown, died and fallen, since the completion of the mounds upon which they lie, is that this completion must be referred, as regards its epoch, to a point at least a century before the discovery of the continent, and perhaps much earlier.

WONDERS OF THE MICROSCOPE.—The following is an extract from a lecture upon "The Microscope and its Revelations," delivered on Nov. 25th, before the American Institute, by President Barnard, of Columbia College, New York: "Suppose a little drop of water, such as might be lifted upon the point of a pencil; within this insignificant space may be easily contained, of some of the smaller organisms, a number not less than two thousand millions—that is to say, more than double the number of the human inhabitants of the entire earth. Even this will fail to convey an adequate idea of the extreme minuteness of the objects we are considering; for such numbers as millions and thousands of millions are totally inconceivable by the mind. The names are mere sounds, which serve us for symbols in making computations, but to which it is impossible to attach any clear notions. Let us try another illustration. Draughtsmen, and persons who have occasion to make use of divided rules, are aware that a division finer than about 150 to the inch is with difficulty discerned. Few eyes will distinguish lines closer than 200 to the inch. Divisions so fine as 1,000 to the inch defy the keenest vision to separate them at all. A cube, therefore, having its sides only equal to the one-thousandth part of inch, is an object invisible to the unaided human eye. But such a cube is large enough to hold not less than 2,000 of the minuter monads."

METEORS AND STONE SHOWERS.—The remarkable meteor of Oct. 7th, which was seen both in England and France, is described by the journals of both as illuminating the earth for some seconds with a bluish electrical light so powerful as to completely overpower the moon, which was shining brightly at the time. *Le Petit Journal*, of Paris, says that in a conversation between one of its contributors and M. Chapelas-Coulvier-Gravier, a celebrated French observer, the latter gave it as his opinion that meteors and the showers of stones which have so frequently been said to accompany or to follow them, are, contrary to the generally received belief, entirely distinct phenomena.

PLATINUM IN VINEGAR MAKING.—Artus, in his *Vierteljahresschrift*, recommends to dissolve one-half ounce of dry *bichloride of platinum* in five pounds *alcohol*, saturate therewith three pounds of wood charcoal, broken to the size of a hazel-nut, and ignite in a covered crucible; and to use the product in the well-known way in the oxidation of alcohol to acetic acid. He states its action to be surprisingly rapid and complete, and that the vinegar obtained has a pleasant flavor and odor. This seems an improvement of sufficient practical promise to be worthy of record.—*Prof. Wurtz.*

SALT AND RADICAL.—Thos. Wood, F. C. S., writes the *Chemical News*, suggesting new definitions for these words. At present the term salt is very vaguely used, and not easily understood by learners. Chemists, even, are unable to state clearly, briefly and concisely what they mean by the word:

Mr. Wood defines a radical to be any body that, without itself suffering decomposition is capable of entering into chemical combination with another.

Further, radicals are either simple or compound, real or imaginary. Simple radicals are the elements; compound radicals are such bodies as Cy, etc.; and imaginary radicals, as SO^1, NO^1, etc., are those which have never been isolated, and, like atoms, only exist in the mind and imagination of the chemist, created for his own use and convenience, but rendering the acquirement of the science by the young much more difficult than it would be without them.

If these views of a radical be correct, a salt will be any compound formed by the union of two or more radicals, and will take its characteristic place and name from the radicals composing it. From this definition it would result that a compound radical is already a salt. If, however, a compound be capable of uniting with another, or taking part in a chemical equation without itself suffering decomposition, it should receive the name radical, compound radical, or salt radical, to distinguish it from a true salt.

Thus HCl, HNO^3, and H^2, SO^4, are true salts composed each of more than one radical. If these bodies are salts with a sour taste, let us teach that they are such, and not that they are a special class of chemical compounds capable of generating salts; for radicals, not acids and bases, are the bodies of which salts are composed.

EARTHQUAKES.—At a recent meeting of the Polytechnic Branch of the American Institute, in New York, Dr. J. J. Edwards read a paper upon this subject, which is thus reported: He argued that the earth is kept in its parts by the reciprocation of attraction and repulsion; that the earth is not a molten mass in its interior, although it may once have been; that the heat of the earth is not sufficient to account for earthquakes, nor for the phenomena which are necessary for the vegetable and animal life on its surface; that the laws which govern the sun and the planets are universal laws, and that to know the laws of one is to know approximately the laws of the whole, and that the differences are only of degree and variety, and not fundamental; that a meteor or aërolite is a planet, and, consequently, its component parts indicate the structure of the earth; that the sun is the fountain of our motion and life; that heat, light and electricity are solar emanations, directly or indirectly; that the new scientific laws of the correlations of forces and the conservation of forces are the key to the cause of earthquakes; that the earth stores up any superabundance of heat or light in their correlation to electricity, and that earthquakes are caused by the discharge of this superabundant electricity in its endeavors to equalize itself over the earth or to discharge itself into the surrounding atmosphere under the same laws as the Leyden jar. The lecturer concluded by stating that inasmuch as the greater part of the paper was composed of quotations from others he was not responsible for them, though he heartily concurred in them, believing electricity to be the cause of earthquakes.

GALVANIC ACTION OF COPPER-BOTTOMED SHIPS IN DOCK.—Some month since, the "Elk," a new English screw gunboat, was placed in the old shipping-basin at Portsmouth dockyard, where she lay ten weeks waiting for her screws. When these were ready, it was found that galvanic action had actually reduced the key pieces on the shaftings to plumbago, and had honeycombed other parts of the metal. The *Chemical News* says that "the fact appears to be that the small area of water in the old ship-basin is but seldom opened to the admission of the tide, has always three or four copper-bottomed vessels floating upon it, and is therefore a chemical bath."

Work at the Foundries.

Beginning with the foundries at the farther end of Beale street, on Thursday, we found that Hawkins & Cantrell are at present engaged on a number of wood manufacturing machines for Elam & Howes, whose establishment was burned down in December. Several steam engines are also in hand. A Voris shingle-cutting machine, capable of cutting 40,000 shingles a day—one of the best machines of the kind invented—has just been shipped for Soquel in Santa Cruz county, and another one like it is being made for the same place. Considerable work has been done by this firm lately for the California Fuse Company. This foundry has been in operation since April last, and is now occupied at all kinds of work. Mr. Hawkins has been manager of different works, having been formerly connected with Booth, Dinsmore & Co.

There are two tool manufacturing establishments on this street—Weichart's, and Hinz's—which turn out superior work, but only to order, as it would be impossible to compete with hardware dealers in miscellaneous wares, while blacksmith's wages are from $3 to $4 a day. The works of Weichart will he remembered from the fine glove-cutting tool exhibited hy him at the late Fair, and those of Hinz, by samples of his superior molding tools, with which he supplies the wood manufacturing establishments of San Francisco.

Llewellyn & Co., of the Colnmbia Foundry, are engaged, not extensively just at present, at house castings.

Thompson Brothers, of the Eureka Foundry, have several important johs on hand. One of these is the making of castings for a gas holder for the city of Mazatlan, which will weigh 13,200 pounds—not to mention other attachments of a gas making establishment. Mr. Howell, a resident of Mexico for 20 years, has been here to see to this work, at the same time he is getting the necessary iron work for a water company which is to supply Mazatlan with water, and looking into the matter of atreet railroads. The improved grate hars manufactnred by the Thompson Brothers, whereby Mt. Diablo coal and screenings may he hurned, have met with a steady demand. Castings of every description are made a specialty of at these works. They have heen in operation aince April last; the brothers having heen formerly connected with Brodie's, and with the Pacific Iron Works.

Stoddart's are making a "tumhling beam engine" for a small propeller. Several of these have already been tnrned out here. They are said to possess great advantages.

At Lochhead's there ia heing made, for a tow-boat, for Mr. Mastick, the largest propeller engine ever undertaken in California, having a 36-inch cylinder. A novel arrangement of double engines, for double propellers, is being made for Goodal & Nelson of Santa Cruz, to run across the har there, and up Salinas river. The advantage of and necessity for this douhle propeller, is that they are enabled hy it to navigate at aea, across a trouhlsome bar, and up an intricate stream, with a draught of only aeven feet of water.

At the Lincoln Iron Works, engines priucipally are being made. A fine one for a steamboat propeller is just completed.

The Risdon Boiler Works seem not inactive, hut report nothing of interest on haud at present.

Coal in Northern California.—It is reported that some deposits of excellent coal have been found near the big bend of the Pitt River, 50 miles from Fort Crook.

The Galaxy.—This representative of the present living and rising literary lights of New York, has commenced on its seventh volume, with a great array of familiar names as its list of contributors.

The Folsom Foundry is doing a large business.

[Written for the Mining and Scientific Press.]

Particulars of the Smartsville Blast.

Editors Mining and Scientific Press: On Tuesday evening last the drifting in the Smartsville Consolidated Hydraulic Mining Company's claims, where 1,201 kegs of powder were to be exploded, was completed; when the drifting or total tunneling was measured, sbowing 570 feet in lengtb, by 2½ in width and 3½ in hight. Tbe powder was then placed in the different cross-drifts, the bead taken out of each keg, the kegs heing stowed so as to break joints, and distrihuted in quantity, in proportion to the higbt of the hill to be operated upon. Mr. T. D. Field, of San Francisco, whose services were secured for the occasion, entered the drifts, arranged the wires, placing cartridges in each of tbe cross-drifts, in such a manner as to ignite the wbole mass at twelve different points at the same instant. Seventy feet of the main drift was then tamped; which was completed by 11 o'clock A. M. on Thursday. The wires were then laid to a point 600 feet distant, selected for the hattery.

The quantity of powder to be exploded in this hlast, and the effects to he anticipated, had heen a theme of conversation and speculation by the people of the surrounding country for some time, many contending that life and property would he endangered; and it was publicly announced some time before, that on Thursday at 12 o'clock, the blast would be fired. The whole neighborhood was on the move.

Families in tbe immediate vicinity could he seen with tbeir little ones climbing over the mountain for safety. On the top of the most prominent hills could he seen groups of people anxiously waiting, whilst others, to show their bravery, remained within two and tbree hundred feet. The hour of 12 baving arrived, all baving been ready for an hour past, Mr. Field charged the battery and gave the word, when Miss Angie Crary drew the cut-off, and as quick as lightning could travel 600 feet, the hill was seen to raise some fifteen feet, open in a thousand places, and then settled back a pulverized mass, without making any report, there being only a slight tremhling of the earth, and all was over. The space blown up was 270 feet in length, 180 feet in width, with an average depth of over 100 feet, supposed to amount to 200,000 tons of gravel and cement, which was tbus prepared for washing.

The cost of this hlast is near $6,000, and it will require 150 days full running time to wash it off. The water for the same at 600 inchea per day, and fifteen cents per inch, will cost $12,000. The cost of cuts and flumes, etc., preparatory to washing, is about $20,000. You may judge from these items what it costs to commence, or what it requires to place a hydraulic mine in order to commence work.

There are several mines here that are in successful operation, and four very expensive bedrock tunnels are being run within a distance of a mile, to strike the old river channel, now being worked by the Blue Gravel Mining Company, some account of which I will send you for next week. A.

Smartsville, Jan. 4th, 1869.

The Imperial Silver Quarries Company.—A correspondent from Boise City, I. T., inquiring about the Imperial Silver Quarries Company, says: "This Company, I learn by an English paper (John Bull) of 8th August last, was, during the previous week, wound up under the "Company's winding up act," before Vice Chancellor Malins, who animadverted very severely on the conduct of the Directors, and notified them that they would be held for the liabilities of the concern in their individual capacity."

It seems, nevertheless, that the Company is doing something in Alpiue county; though on what basis, or to what extent they are tunneling, we are unable to state.

Low Grade Ores.—On rock averaging only $6 to $7 to the ton, the Golden Rule Mining Company is declaring bi-monthly dividends of 2½ per cent. on the capital stock. The company will carry over from this dishnrsement a surplus of $12,000, which is at interest in bank.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

For the Week Ending December 15th.

84,858.—Improvement in Churns.—James Carlton, of Walla Walla, Washington Territory:

I claim in combination with the partially cogged-gear wbeels F, F, and hollow pinion H, the agitator composed of the hollow spindle J, bollow arms b, h, and floats a, a, substantially as and for the purpose herein described.

The object of this invention is to provide an improved device for converting cream into butter, and is what the inventor terms a *reaction* churn. It consists in so arranging the driving gear that the agitators will be moved once around and back alternately, producing a reaction that will quickly convert the cream into hutter. It also presents a new feature in the construction of the agitators, as the shafts and arms whicb unite them are hollow, and communicate witb the air outside through the shaft and pinion by which they are driven, tbus distributing tbe air through the body of the milk or cream.

84,877.—Improved Tile for Floors, Sidewalks, etc.—John Gray, of San Francisco, Cal.:

I claim the above described composition tile as a new article of manufacture.

This is a composition which when molded and pressed into blocks or slabs will be suitable for sidewalks, floors and all kinds of paving, where a smooth surface or floor is desired. When properly prepared it will be dry and hard like stone, and can he furnished at a small cost as compared with stone or marble.

84,914.—Improvement in Automatic Stop-cock for Gas Burners.—Geo. E. Smith, of San Francisco, Cal.:

1. I claim the compensating curh or rod, composed of two or more metals b and c, together with the lever K, detent M, arm D, and spring E, substantially as and for the purpose described.

2. The lever K, connected with the curh, the two detents G and M, and the catcb a, on the arm D, constructed and operated substantially as herein described.

The frequency of accidents resultiug from carelessness and iguorance of the use of gas, has induced tbe inventor to provide a small attachment to gaa hurners, which is operated automatically, and will, in case tbe light is hlown out or becomes extingnished by any means, shut off the flow and thus prevent the fatalities frequently consequent on the room becoming filled with gas, and also prevents the waste of gas which is often considerable on this account. This device is especially applicable in houses where the gas is left burning all night without any attendant to watcb it. It consists of a hoop supported at such a hight as to encircle the blaze at a little distance from it. The hoop is composed of an outer rim of brass and an inner rim of steel riveted together and fixed at one end. The other end moves from oue side to the other, operating by the unequal expansion of the metals, and thus moves the arm of a lever which connects with a delicate holding catch or detent. By this the stop-cock is kept open as long as the gas burns and the heat is kept up, but whenever the flame is extinguished, the contracting hoop operates the lever and throngh it on the detent, freeing the arm of tho stop-cock, aud allowing it to close, which it does by a spring.

84,963.—Improved Railway Car Brake. D. J. Parmele, of San Francisco, Cal., assignor to himself aud J. H. Currier, of Springfield, Ill.:

I claim the combination with the lever e, of the booked rod g, hooked trigger i, and cord k, provided with rings, substantially as and for the purpose described.

85,005.—Improvement in the Preparation of Sulphates and the Manufacture of Fine Silver Therefrom.—Frederic Gutzkom, of San Francisco, Cal.:

I claim the preparation of crystals, consisting principally of sulphate of silver, by separating them from tbeir solution in a sulphuric acid in the manner as described above the volume, tbe specific gravity and the temperature of such acid to be withiu the limits as stated in my specification for the purpose of converting such crystals into wbat is called commerce fine silver.

85,008.—Improved Carriage Spring.—Frank A. Huntington, of San Francisco, Cal.:

I claim the rigid levers C, C, and springs G, G, in combination with the adjustable bars F, F, the whole arranged substantially in the manner and for tbe purposes described.

The object of tbis invention is to provide an improved carriage spring so constructed that a weight placed on any part of tbe carriage will depress the spriugs on each side equally creating no undue strain to any portion, and so arranged and applied as to give the carriage the greatest elasticity without impairing its strength, and it consists in using separate springs or levers for each end of tbe buggy, one end of which is pivoted to a clip which is attached to the center of the body on each side, the opposite ends being secured hy a shackle to a curved picce of metal attached to tbe holster and axle bed. A bar passes from the springs on one side, to the springs on the other, a short distance from and on each side of the clip connection, and springs or bumpers made of india rubber or other elastic materials is placed ou each end of these cross pieces.

"The White Pine News" is a newcomer, just horn to the journalistic world. It is a neatly gotten-up paper, especially remarkable for the largo amount of valuable and ably prepared information it contains about White Pine district, local and general—making it equal, indeed, to a little volume on the subject. To give an idea of the matter, there are beadings about White Pine prices; winter immigration and work; the altitude of Treasure Hill; water supply; road repairs needed; description of various mines; reports of discoveries, shootings, etc. Amongst the longer articles we fiud descriptions of the geography, climate, of Chloride Flat, notices of outside districts, mention of huilding materials, and an article canvassing tbe prospects in general, besides a "list of letters remaining," etc. Pitchford & Simpson, are tbo publishers, at Treasure City. The able assistance of Dr. De Groot is evidenced in the editorial preparations.

Wharf Construction.—John A. Fulton, the builder of some of the most extensive wharves in this city, has just completed a fine piece of work at the foot of East street, between Jackson, for Thomas & Twing, wood and coal dealers—the Commissioner having permitted them to so use the property as a wharf, on condition that they would pile and cap it, which has heen done. Capt. Roberts has also been constructing wharves along the outside of the new hulkhead, where considerable activity may be witnessed in pile-driving, etc.

Nelson Chesman, No. 40 Park Row, New York, will puhlish this month a hook of 300 pages, containing a list of all newspapers and periodicals published in the United States, Canadas and British and North American Provinces. We believe it will he the first publication of the kind published in this country. More particulars concerning this work will be found in our advertising columns.

Packard's "Guide to the Study of Insects."—We have received from the author Part IV of this valuable work. Agriculturists and horticulturists, who are constantly brought in contact with insects, some of which are friends and others enemies, ought to learn to distinguish between them; and for such the work is espccially intended. The work is issued from the press of the Essex Institute at Salem, Massachusetts.

California Invention Sold.—The parent right for Bussey's Combiuation Safe Lock for the Pacific Coast, was sold on Saturday last for $5,000, to Kittredge & Leavitt, of this city. The purchasers are well versed in bank locks, and are sure of having made a fortunate purcbase, having observed the steady advance of the Bussey Lock in popular favor.

Weekly Stock Circular.

By Associated Brokers of the S F. Stock and Exchange Board.

San Francisco, January 9, 1869.

Financial.

We are experiencing a season of financial abundance, with fair prospects of continued ease for some time to come. Expenditures for the holidays were unusually large, throwing a great deal of loose money into the market, and stimulating a lively trade in various articles, many of which were of home manufacture.

Our laboring classes evince a strong desire to accumulate, as is sufficiently proved by the constantly increasing deposits in the Savings and Loan Banks. At this season, these institutions, and our local corporations, are making their accustomed dividends, thereby placing considerable amounts in active circulation. Rates in bank remain steady at 1@1¼ per cent. per month. In several instances large sums have been obtained at 10 per cent. per annum on first class real estate mortgages. We quote gold bars at 860@870, and silver bars from par to ¼ per cent. premium; currency bills on Atlantic cities command 33¼ per cent. premium on gold; sight drafts, payable in coin, 1 per cent. premium; telegraphic transfers, 1¼ per cent. premium; sterling exchange, 48¼@49d.; commercial exchange, 49¼@49½d. Mexican dollars, 5@6 per cent premium. Bullion is in fair supply with good requirement.

The steamer Great Republic sailed for Yokohama on the 4th inst. with $753,294 in treasure, divided as follows: For China, $58,525 in gold bars; $282,362 in Mexican dollars; $198,539 in silver bars; $25,413 in gold coin, and $6,860 in gold dust. For Japan, $63,156 in gold bars, and $118,437 in silver bars.

Transactions in real estate have not been very active since the middle of October, but are regaining tone and strength. The number of sales in December was 484, being an increase of 78 over November. The amount of money involved in the December sales was $1,606,759. There were 221 mortgages effected in the same month, representing $739,915, and 143 releases, amounting to $312,222. Those who own eligible lands in the city manifest a disposition to keep them, and decline putting them in the market. Carter's *Real Estate Circular* says that the Montgomery street extension will be pushed through without delay, but not on the line formerly contemplated. The extension will run parallel with Second street, and be wider than the present Montgomery street. A large portion of the property involved has already been purchased for $706,220 extending on a line of 1,100 feet, being at the rate of $642 per front foot. The Cosmopolitan Hotel, together with the fifty-vara lot on which it stands, was recently sold for $375,000. Two years ago it was offered to a wealthy capitalist in this city, together with the furniture, which was then new and valued at $140,000, for the sum of $320,000. After some hesitation the offer was declined.

Lands are in request in nearly all portions of the State, and improvements are upon a corresponding scale.

The amount of coinage at the Branch Mint, for December, was $2,422,000, of which only $82,000 was in silver. The total coinage for 1868 was $17,400,000, being $2,698,535 less than in 1867.

The Twelfth District Court dissolved the incorporation known as the Builders' Insurance Co., on account of its insolvent condition, the assets standing at $91,084 27 against $136,681 65 liabilities. We understand, however, that their marine risks have been taken by the Home Mutual Insurance Co., and their approved fire risks, to the amount of about $6,000,000, by the Liverpool and London and Globe Insurance Company.

City Stocks.

Since our last similar reference, transactions embraced under this head have not been large. We note sales of Spring Valley Water stock at $66, and San Francisco Gas at $80 25 per share.

The dividends of our Savings Institutions for the six months closing with December, have been nearly all announced. We annex the rates of each: Savings and Loan, 10 per cent. per annum, free of Federal tax, payable on and after the 11th inst. Odd Fellows, 12 per cent. per annum, free of Federal tax, payable on and after the 12th. San Francisco Savings Union, 9½ per cent. on ordinary, and 11 2-5 per cent. on term deposits, free of Federal tax, payable on the 12th inst. Farmers' and Mechanics', 10 per cent. per annum. German, 9½ per cent. per annum on ordinary, and 11 2-5 per cent. on term deposits, payable on and after the 15th instant.

The Spring Valley Water Co. pays its usual monthly dividend to-day. The Pacific Insurance Co. declared a quarterly dividend of $3 per share, the Occidental the same amount, and the Merchants' Mutual Marine its usual monthly dividend of 1 per cent., all payable on the 11th instant.

Mining Share Market.

Within the past few days the mining share market exhibited a very fair degree of vitality. Savage, Yellow Jacket, Overman, and Hale & Norcross, being leading stocks in the market, the sales of the same have been quite heavy, partaking largely of a speculative character, and at the close showing a slight recession under this movement.

ALPHA—sold at $52 50@59 50, then at $56, and closed at $54. On the 5th inst. the incline was 114 feet in depth below the 940 level.

CHOLLAR-POTOSI—opened at $169, declined to $158, and at the close realized $168. The bullion receipts for the month of December foot up $108,336; in November they amounted to $102,722, and in October to $112,898. During the week ending January 1st, they extracted only 520 tons of ore against 1,261 the previous week. Nothing of importance from the mine.

CROWN POINT—ruled at $52 50@$56, then sold at $53 50, and closed at $53. It is believed that the stopes on the 850 level will not hold out much longer than six weeks. The shaft, on the 3d inst., had been carried to a depth of 1,091 feet, sinking continuing in hard rock. The south drift was in 330 feet from the south boundary line of the Kentuck company. The divergence of the clay walls found in this mine, it is thought, would give some confidence in finding a new ore deposit between the face of the drift and the north line of the Belcher company.

CONFIDENCE—sold at $36@37, and closed at $37. The bullion returns for December show a yield of $14,728; in November they were $13,983, and in October $22,832....GOULD & CURRY ruled at $98@119, and at the close sold at $113 50. During the months of October and November the bullion returns amounted to $14,603.

HALE & NORCROSS—has been quite active at fluctuating rates, advancing from $44 50 to $50, then selling at $46 50, rising to $64, and closing at $55 50. The bullion receipts in December aggregate $10,875, in November $16,013, and in October $26,641.

IMPERIAL—improved from $110 to $116, then sold at $112, and closed at $109 50. On the 5th inst. they commenced to drift from the bottom of the winze—35 feet below the 900 level—the water having increased so much that they could not sink any deeper. In December the bullion returns aggregated $44,288, in November $35,944, and in October $58,229.

KENTUCK—declined from $263 to $245, advanced to $254, closing at $251 50. A dividend of $20 per share is payable to-day. The bullion returns for December foot up $98,582; in November they amounted to $86,097, and in October to $69,145.....OVERMAN exhibited increased activity, selling at $88@92, then at $80 50@85, and closing at $82. The bullion yield in December amounted to $60,258, against $34,000 in November, and $35,000 in October.

SAVAGE—has been in marked request, improving from $81 to $87 50, declining to $83, and closing at $83 50. A dividend of $4 per share—aggregating $64,000—will be paid on and after the 11th inst. The bullion returns in December reached $152,000; in November, $119,760; and in October, $128,000.....YELLOW JACKET jumped from $1,460 to $1,630, fell to $1,450, and closed at $1,480. A dividend of $100 per share will be disbursed on the 15th inst. Owing to the reticence of officials at Virginia, we are unable to give any monthly bullion statistics.....SIERRA NEVADA shows a bullion yield of $7,568 during the month of December. The assessment levied in November has been rescinded.

AMADOR (Cal.)—was in the market at $240@250. The receipts of bullion in December amounted to $46,000.....EUREKA (Cal.) shows a bullion yield of $70,910 during the month of December.....JULIA levied an assessment of $2 50 per share on the 6th inst.

A USEFUL PUBLICATION.—The MINING AND SCIENTIFIC PRESS, published at San Francisco by Dewey & Co., is a publication valuable to all classes and indispensable to miners and inventors—the patents for nearly all California inventions having been secured through the Patent Agency of the proprietors of that paper, and the inventions themselves brought into notice through its columns. We are glad to learn, from Mr. Wm. H. Murray, the traveling agent of the paper, who dropped in upon us Monday evening, that its merits are so well appreciated; and we unhesitatingly commend both the paper and its gentlemanly agent to the confidence and patronage of scientific and practical men of all classes and every occupation.—*Solano Herald.*

WHITE PINE WATER SUPPLY.—A. W. Von Schmidt, the engineer who planned and superintended the construction of the Spring Valley Water Works, has made arrangements to supply Hamilton from springs three miles distant, which discharge regularly 300 inches of excellent water.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Amador Co., dividend, $6 per share	Payable Dec. 19, 1868	
Alpha, Storey co., Nev., Dec. 3, $10	Jan. 3	Jan 25
Alpha, Lyon co., Nev., Nov. 25, 35c	Dec. 31	Jan. 20
Adriatic, Storey co.	Special Meeting, Jan. 28	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co. Nev., Dec. 31, $25	Jan. 30	March 2
Crown Point, Storey co., Dec. 18 $7 50	Dec. 18	Jan. 17
Cherokee Flat, Butte co., Dec. 9, $5	Jan. 11	Jan. 26
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12 1868	
Cosala, Sinaloa, Dec. 12, $1	Jan 15	Feb. 4
City R. R., San Francisco, Jan. 6, $5	Feb. 10	March 6
Diamond cop., Del Norte co., Oct. 28, $2	Nov. 10	Jan. 21*
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Gold Hill Quartz	Annual Meeting Jan. 11	
Gould & Curry, Storey co., Nev., Dec. 5, $15	Jan. 21	Jan. 29
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, div. 50c ₱ sh	Payable Dec. 26*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 11	Jan. 28*
Hale & Norcross, Storey co., Dec. 12, $5	Jan. 16	Feb. 6
Hale & Norcross, div. $4 25	Sept. 16, 1867	
Hope Gravel, Nevada co , Nov 18, $1	Dec. 22	Jan. 11*
Imperial, Storey co . Dec. 15, $25	Jan. 18	Feb. 4
Imperial, Storey co , Nev., div.	Payable June 20, 1868	
Juan Bautista, Santa Clara co., Nov. 27	Sale Jan. 30	
Julia, Storey co , Nev., $2.50	Feb. 10	Feb. 27
Keystone, Consolidated	Special Meeting, Feb 13	
Kentuck, div., $2 per share	Payable Jan. 10, 1869	
Mohawk & Montreal, Nevada co., Dec. 7, $3	Jan 10	Jan. 25
Morning Star, Alpine co., Dec. 9, $2 50	Jan. 11	Feb. 1
North Star, dividend, $5	Payable Aug. 15, 1868	
Oriental, Sierra co., Jan. 4, $7.50	Feb. 5	March 6
Pacific Unassessable, div.	Payable June 18, 1868	
Rattlesnake, Yuba co , Dec. 19, $7.50	Jan. 21	Feb. 8*
Rippon, Alpine co , Oct. 15, $1	Sale Jan. 23*	
Rising Star, Idaho, Nov. 16, $10	January 4	Jan. 30
Sierra Nevada, Storey co., Nev.	Annual Meeting Jan 11	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
S. F. & Castle Home, Arizona, Nov. 25 3c	Dec. 28	Jan. 12*
Savage, Virginia, Nev, dividend, $4	Payable Dec. 12, 1868	
Sierra Nevada, Nev., Nov. 16, $12.50	Jan. 15	Jan. 15
Sand Spring Salt, dividend $1	Payable Jan. 5, 1869	
Tallulah, Humboldt co., Dec. 14, $17.50	Jan. 29	Feb. 27
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15	Jan. 30*
Virginia & G. H Water Co.. Dividend, payable Nov. 20, 1868		
Yellow Jacket, div., $100	Payable Jan. 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, January 8, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 83	83¼
United States Bonds, 6 20s, 1864	81	82
United States Bonds, 5-20s, 1862	82	82½
Legal Tender Notes	74	74½
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par	& int.
San Francisco City Bonds, 6s, 1855		
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	
San Francisco School Bonds, 10s, 1861	par	& int.
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	87½	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	24	—
Sacramento County Bonds, 6s	65	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	76	80
California Steam Navigation Co	55	—
Spring Valley Water Co	67	—
State Telegraph Co	25	—
GAS COMPANIES.		
San Francisco Gas Co	80	—
Sacramento Gas Co	—	75¾
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	49	52
North Beach and Mission Railroad	65	70
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	54	54½
Baltimore American	—	—
Belcher	162	165
Bullion, G. H	27	28
Crown Point	52½	53
Cole (Va.)	8	11
Confidence	36	39
Consolidated Virginia	11	12
Chollar-Potosi	163	169
Daney	3	3½
Exchequer	27½	30
Empire Mill and Mining Co	128	130
Gould & Curry	113	114
Gold Hill Quartz	66	70
Hale & Norcross	55½	56
Imperial	110	111
Kentuck	250	253
Julia	3	3¼
Justice and Independent	5½	—
Lady Bryan	17	—
North American	2	6
Ophir	37	39
Overman	82	83
Segregated Belcher	8	8¼
Savage	83	83½
Sierra Nevada	29	30
Yellow Jacket	1470	1480
Union	—	—
United States	—	—
MISCELLANEOUS MINING STOCKS.		
Amador (California)	247½	250
North Star (California)	—	—
Eureka (California)	210	—
Lagoto (Humboldt)	—	2
Golden Rule, California	10	12

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, January 8, 1869.

Flour, Extra, ₱ bbl	$5 25	@$5 75
Do. Superfine	4 25	@4 75
Corn Meal, ₱ 100 lbs	3 25	@3 50
Wheat, ₱ 100 lbs	1 50	@1 90
Oats, ₱ 100 lbs	2 00	@2 25
Barley, ₱ 100 lbs	2 05	@2 50
Beans, ₱ 100 lbs	4 00	@5 50
Potatoes, ₱ 100 lbs	75	@1 10
Hay, ₱ ton	14 00	@20 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	7	@ 8

GROCERIES, ETC.

Sugar, crushed, ₱ lb	17	@ 17½
Do. China	10	@ 12½
Coffee, Costa Rica, ₱ lb	17	@ 17½
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	75	@ 90
Do. Green	60	@1 25
Hawaiian Rice, ₱ lb	9	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 50
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	60	@ 65
Rethnus Butter, ₱ lb	40	@ 45
Cheese, California, ₱ lb	15	@ 20
Eggs, ₱ dozen	60	@ 65
Lard, ₱ lb	13	@ 14
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	5	@ 8½

Retail Prices.

Butter, California, fresh, ₱ lb	80	@ 85
do. pickled, ₱ lb	30	@ —
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 45
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	65	@ 75
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	23	@ 25
Cranberries, ₱ gallon	1 25	@1 50
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ —
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Oranges, ₱ dozen	75	@1 00
Lemons, ₱ dozen	75	@1 00
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	25	@ 28
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	—	@ 20

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, January 8, 1869.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1¾c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¼c ₱ lb.

Scotch and English Pig Iron ₱ ton	$35 00	@$36 00
White Pig ₱ ton	34 00	@ 36 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¼	@ — —
Plate, No. 5 to 9	— 04	@ — 04¾
Sheet, No. 10 to 13	— 04¼	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¼
Sheet, No. 24 to 27	— 05	@ — 6¼

COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	— 25	@ — —
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 30

STEEL.—English Cast Steel, ₱ lb — — @ — 15

QUICKSILVER.—₱ lb — 55 @ — 60

LEAD.—Pig, ₱ lb — 7½ @ — 8

ZINC.—Sheets, ₱ lb — — @ — —

Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9¼

BORAX.—California, ₱ lb — 23 @ — 25*

ELKO, ten or fifteen miles from Maggie Creek, and near Humboldt Cañon, is the starting point of another wagon road to White Pine.

DATA of value and importance to those interested in White Pine, prospectively, will be found in an able article by Dr. De Groot, on another page.

NEW SUGAR REFINERY.—The corner stone of a new sugar refinery, at the corner of Eighth and Brannan streets, has been laid.

LUMBER at White Pine sells at $175 and $200 per thousand.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

HALF WAY up Lookout Mountain, the place where memory is stirred by a thousand recollections and associations, and where the brave boys of both armies met and fought hand to hand, where the blood of both friend and foe was mingled together and ran down the mountain-side in rivulets, is a smooth-faced rock, upon which a poor, wounded soldier inscribed the following:

"S. T.—1860—X.—Early in the battle I was wounded, and carried to this spot by two clever "Yanks." They bade me farewell, and, as they supposed, to die, for I was so weak from loss of blood that I could not faintly thank them for their kindness. They left in my canteen part of a bottle of PLANTATION BITTERS, to which I owe my life, for it strengthened me, and kept life within me until help came and my wound was dressed. God bless them for their kindness and for the PLANTATION BITTERS.

HENRY DAVAGEL,
Company B, 10th Ga.

AUSTRALIAN KANGAROO.—Five of these beautiful animals, embracing three different species, one of which is exceedingly rare, have made their appearance at Woodward's Gardens during the past week. They are as fresh and lively as when taken from their native haunts.

C. MULLER, oculist, 205 Montgomery street, deals in all kinds of spectacles. If you cannot apply in person, you can be fitted by sending description, age, etc.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Markleeville *Miner*, Dec. 26th: A strike has lately been made in the old Billy Rodgers claim in Hope Valley which promises to be of importance to Alpine. The croppings exhibit copper, and the early shallow workings were only successful in getting pretty good copper ore.

On Monday last Supt. Gamble started up the new hoisting works of the Morning Star Co., and is pushing ahead with the work in the shaft, and expects to be about 50 days in going down 80 ft. further, at which depth he will commence a drift to strike the body of ore in the lower level.

Chronicle, Dec. 26th: Good ore has been struck in Barnes' claim, known as the old Billy Rodgers claim, in Hope Valley. The shaft is now down about 110 ft. The contractors will drift north and south on the ledge and get out all the ore they can between this time and next spring, when Mr. Barnes will erect a mill.

AMADOR COUNTY.

Jackson *Ledger*, Dec. 26th: W. H. Thoss has sold his Sulphurets mill and property connected therewith situated on Else's Creek, near Volcano, and the right to work the rebellious ores for the precious metals by the "Thoss process," to Ed. Schultz, of San Francisco, for $11,000 cash. The "Thoss process" is warranted to extract and save at least 90 per cent. of the precious metal from the ores worked, at a cost not to exceed $7 per ton, and has been used very successfully by Mr. Thoss, the inventor, for several years.

Mr. Schultz has purchased valuable mining property at Pine Grove, and will work the rock by this process. He has erected splendid hoisting works at his mine, and is now adding a battery of five stamps to the sulphurets mill.

Jan. 2d: During the past seven months, there has been worked at the sulphuret furnace of Coney & Bigelow, at this place, 304 tons of sulphurets, taken from the following mines: Coney & Bigelow, 180 tons; Dunnings, 3½; Atchison's, ¾; Keystone, 24; Oneida, 93; El Dorado County, 3. These sulphurets average $120 per ton, yielding in the aggregate, $36,480. The richest are those taken from the Coney & Bigelow mine. The cost of working the sulphurets does not exceed $16 per ton.

CALAVERAS COUNTY.

Mokelumne Hill *Chronicle*, Jan. 2d: It is the intention of David McCarty, of Railroad Flat, to erect a custom quartz mill in that locality. New discoveries in quartz are being made in that vicinity almost daily, and additional facilities for crushing the rock have become necessary. Labor will be immediately commenced upon the new mill.

We were shown, this week, by John Asbury, some very rich specimens of gold-bearing quartz. The rock was taken from a lead recently discovered by that gentleman near Railroad Flat. The lode has not been sufficiently developed to determine its extent, but its richness shows for itself.

No mining locality in the county is attracting so much attention or improving so rapidly as Railroad Flat. Business of every description is lively; new buildings are being erected; strangers attracted by the intelligence of rich strikes, are flocking in; shafts are going down, quartz mills being erected, and, best of all, gold coming out.

The Whisky Slide correspondent writes: The Sheep Ranch is getting to be quite a mining town. There are at present three water-power arastra mills, with more quartz ahead than they can crush in the next six months. The following are some of the successful mines in the district; the McNare mine has a shaft 70 ft. deep, from which they have taken a large quantity of rock out, that estimated at $30 per ton. Smith & Ferguson have a well-defined mine; they think it will pay $50 per ton, from present appearances. Smith & Co., proprietors of the Lodi mine, crushed 25 tons of rock that paid $1,700. Hicks & Co. have out about 25 tons of rock that will pay $60 per ton, and a well-defined lead. Smiler & Co. are running a tunnel on their lead, with a prospect of having one of the best mines in the district....Dennis Burns has bought the Collins claim at Chee Chee Flat, for $460.

MARIPOSA COUNTY.

Mail, Dec. 25th: The Washington mill, near Quartzsburg, has been in successful operation for several months past, crushing rock from the old Washington mine.

Same, Jan. 1st: The Buckingham Mountain Co. after a 10 days' run of their new mill, made a cleaning up of their batteries, on Monday last. Considering the difficulties which usually attend the working of a new mill, the yield of amalgam was quite satisfactory to the company. They intend grinding 100 tons of ore on the next run, which will pay upwards of $20 per ton.

Work on the Hite & Co. mine has been temporarily suspended, owing to the large quantity of ore already out and uncrushed at the mill.

The old Benton mill will be started in operation to-day. The new mill will start in a few days. A large amount of rich ore has already accumulated at the mills and mines, sufficient to run the mills for two months or more. The constant and increasing yield from the Pine Tree and Josephine mines, will require additional machinery, which will be furnished in a short time. An early resumption of work on the Mariposa mine is also anticipated, and further developments forwarded as fast as possible.

NEVADA COUNTY.

Transcript, Dec. 20th: The storms of this winter have as yet done the mines little or no good. Nearly all the water that has fallen has been absorbed by the ground, and it will require another seven days' rain to satisfy the miners.

The Schofield Gold Quartz Mining Co. have obtained a United States patent to the mine. This claim contains 985 feet, and is located in Grass Valley district.

Reasoner Bros. & Co. have located 800 feet on a quartz ledge, on Portuguese Ravine, below the South Fork ditch, near Graniteville. They have named it the Savage mine.

Dec. 27th: The Eastern Co. have located 3,000 feet on Secret Hill, in Remington Hill district, Little York township, for mining purposes. The claims commence at Steep Hollow Creek, adjoining Swift & Sure's ground, and fronting 1,500 feet on Steep Hollow.

Dec. 31st: The Knx Klnx Mining Co. have located 1,000 feet on a quartz ledge in the bed of Wolf Creek. The ledge is one mile south of Grass Valley, and ¼ of a mile from Larrimer's mill.

Gazette, Dec. 28th: The Badger Hill and Cherokee companies have begun hydraulicing for the winter. The Chalk Mountain Blue Gravel Co., at Burrington Hill, near the Cascades, will commence hydraulicing on Thursday next. From their ditch, leading to their claims, they have recently constructed 1,000 feet of flume, four feet wide, two feet deep, with an 8-inch grade. They have five drops to their flume, the first being 150 feet; second, 60; third, 65; fourth, 50; fifth, 20; total, 285 feet. They employ 30 men. The same company, in their Chalk Mountain tunnel, at the Cascades, are taking out gravel that yields $4 to the pan. The Red Diamond Co., below the Chalk Mountain Blue Gravel Co., are still drifting in their tunnel and taking out good pay. They are in about 400 feet.

Dec. 29th: The Buckeye Gravel Co., on Rock Creek, have struck very rich gravel in their claims on the extension of the old Nebraska lead. The pay gravel is from 40 to 60 feet wide, and averages about four feet in depth. The gravel is taken out and washed in sluices, and will pay from $60 to $100 for each set of timbers, the latter being four feet apart. The Kansas Mining Co., ¼ mile below the Buckeye Co., are vigorously at work on their gravel claims, sinking a double incline shaft. They are now down nearly 200 feet, and expect to strike the lead at a depth of between 500 and 600 feet.

Dec. 31st: Several intercsts in mining ground near French Corral, have been sold during the past month, and a number of agents for San Francisco and eastern capitalists are negotiating for the purchase of mines in that vicinity. Stidger, Evans & Co., of the Buckeye claims, have given bonds to sell their ground to an English Co. for the sum of $225,000. Several other claims have been bargained for within a few days past, involving a large amount of money. A number of these mines, a few years ago, were considered as valueless, or worked out, and now their owners hold them at from $10,000 to $50,000 each.

Jan. 1st: Water has now fallen in sufficient quantities to enable miners to fairly commence operations with the prospect of continuing them through the winter. We believe that the usual amount of preparation has been made, and the rains, coming thus late, have given miners a chance to have everything in readiness. The storms, while giving water enough to supply the ditches, have not done them any damage, as is frequently the case at this season of the year. From present appearances, hydraulic mining will be carried on as generally and successfully throughout the county this season as last season.

Grass Valley *Union*, Dec. 31st: We have chronicled several new strikes within the last month, and all of these have proved good ledges. The owners are working on all of these for the gold which comes out of them. We notice great activity among prospectors. Ben. McCauley's mill, at Boston Ravine, is kept constantly running on custom work, furnished, for the most part, by prospecting companies. Of all the different crushings made recently at that mill, not one has failed to pay over expenses of mining, and in many instances very heavy pay has been had. There is a hope that Massachusetts Hill and the Scadden Flat claims will be worked during the coming year, and an almost certainty that Allison Ranch will start up early in the spring.

Jan. 1st: The Seven-Thirty mine, on the head of Squirrel Creek, has been noted for sometime as a good paying ledge. The rock has averaged not less than $60 to the ton, by mill process, and excluding the sulphurets, which are supposed to be very rich. The Bowery is on the extension of the Seven-Thirty, and has produced some fine rock. A crushing of 16 loads from the Bowery, yielded, $2,541, or $158.81¼ per load of about one ton weight.

Grass Valley *National*, Dec. 30th: We saw yesterday evening at Findley's bank, a little button of gold worth $105, which came from 1,400 pounds of sulphurets taken from the top rock of the Higgins ledge, which is now being so successfully worked by Frank Morse. These sulphurets pay at the rate of $150 per ton, and were worked by Hobart & Burr.

Dec. 31st: We saw to-day at Delano's bank, a lump of gold worth $2,541, the product of 16 loads of rock from the Bowery ledge, an extension of the famous Seven-Thirty. The shafts of the two mines are only 550 feet apart. The Bowery is now running an incline, and has advanced 72 feet. None of the rock which gave this handsome yield of more than $158 to the ton, came from a point more than this distance from the surface.

The last crushing of ore from the Osborne Hill mine, consisting of 60 loads from the north side, yielded $1,900, and rock is now being crushed from the south side that pays $65 to the load.

PLUMAS COUNTY.

Quincy *National*, Dec. 19th: Richards, Jenkin & Co. on the Wah-pon-see Hill, have their ditch finished, hydraulic planted, and all in condition to drive the gravel down the slope, and pick up the gold nuggets as they have them from prospecting evidences. John Colman, on the head of *Quein Sabe* Ravine, has likewise opened a splendid prospect, in a relic of the Blue lead. McVey & Taylor, at the Mountain House, No. 2, are all ready, and anxiously awaiting a change in the elements. Good diggings they have to a certainty. All the boys around the Mountain House district would very much like a week or two's rain for their especial benefit, as well as the boys around Brandy Flat, who have made extensive improvements the last three months, so as to work their diggings more extensively, and longer in the water season, having plenty of good paying ground. There are a good many more mining camps around Silver Creek district, that are paying diggings when they can get the gravel to run through their boxes. The Badger Hill, Gopher Hill, and Curtis Point invincibles, are all waiting to run a little more gravel down the hill.

SACRAMENTO COUNTY.

Folsom *Telegraph*, Dec. 26th: The late storm has closed river mining for the season. John Wild & Co., in their claim below the bridge at Mormon Island, on the South Fork, have done well in their claim this season. This claim is near the celebrated old Watson claim of "49" memory.

W. H. Knox is now working in his claim at Coon Hill, near the Western House, in this county, 15 hands and expects to roll out a large amount of gold dust at his next wash up.

Clifford & Co. are opening a large and extensive claim in the next hill adjoining the renowned Willow Spring Hill, on the southwest, with excellent prospects, and there is every reason to believe they have a valuable claim.

SAN BERNARDINO COUNTY.

Guardian, Dec. 26th: We were just shown a specimen of pure gold, weighing 7½ ozs. taken recently from the Ames' claim on Lytle Creek.

SHASTA COUNTY.

A Millville correspondent writes the Red Bluff *Independent* as follows: A great effort is being made to establish hydraulic mining on a large scale in this county. D. E. Gibbons, of Alameda, and Rodman Gibbons, of San Francisco, are the prime movers in the affair. Their diggings at Piety Hill are of the most extensive character.

TUOLUMNE COUNTY.

Sonora *Democrat*, Jan. 2d: Hamilton, Lucas & Lander have relocated the old Ripperdam claim, near Pap William's Ranch, and are about to commence operations. They intend running a race up through the flat with the hope of striking a rich shute in a quartz vein at the head of the flat, in which a rich shute had been found some years ago. The gravel in the flat prospects well and will doubtless pay good wages.

Thos. Burns has purchased the Foundry & Jackson mill, on Big Creek, and is about to add new machinery to it. He intends using it to crush rock from a new mine recently discovered, in the vicinity of Big Creek, by James Burns. The mine is well prospected and no doubts are entertained of its paying. Ten tons of rock from it, crushed at the Garrote mill, paid $19 per ton.

Some Chilenos had made a rich strike at Coyne's Ranch, on French Gulch, near Murphy's, a few days before our visit. On the 22d ult., they picked up between $400 and $500, one piece weighing over seven ounces.

The hydraulic claim of A. M. Mitchell, at Vallecito, looks remarkably well, and the Doctor informed us that a small pit which had just been cleaned up, yielded over $4,000. There are many other good claims on Vallecito Flat.

TRINITY COUNTY.

Weaverville *Journal*, Dec. 26th: The Trinity-Center correspondent writes: New mining operations are being commenced here, with good prospects. Crocker & Co. and McLean have new claims which will pay well. Several new claims have been located on a line with Boyston & Whitmore's and Tom Coyle's, which will be opened early in the spring. James Murray has sold his claim to a Chinese company, and gone to San Francisco.

ARIZONA.

Prescott *Miner*, Dec. 12th: From J. A. Anderson, who has been tunneling in the Chase mine, we learn that the tunnel is now in about 215 ft., the ledge about three ft. wide, the sulphurets plenty and rich. Water is plenty and causes a great deal of trouble.

Chas. Borger is working quietly at the Sterling mine. Mill and furnace are now going. The last run paid well. We saw, the other day, some beautiful gold bars from the Sterling, which, we are told, were worth about $500. Our ores are now being tested by the chlorination process and should they turn out as well as intelligent miners expect them to, the pine mountains of Arizona will be the liveliest mining camp on the Pacific coast.

The owners of the Plantanca lode are going down on it slowly. The ore is improving and the water increasing. The vein is about three feet wide, running north and south. They have struck the vein at five different points in a space of about 400 feet and at each point they have found good ore as soon as they reached the water level.

Graves & Co., and French & Curtis are working away at the head of Lynx Creek, in the Walker district. Mr. Griffin has just completed a furnace for Fleury, Graves & Co., and milling and desulphurizing will soon commence.

Mr. Cory, who came from Wickenburg last week brought with him, from the Vulture mill, the richest piece of rock we have seen in a long time. The Vulture and Smith and Wickenburg mills are grinding away night and day, and there is not an idle man in town.

Jackson Bros., Capt. Shoupe and others are preparing to work their hydraulic claims, on Lower Lynx Creek, eight miles east of Prescott.

The various companies that own claims in Big Bug, are preparing to work them, and a week hence, some 15 men will be at work in the district.

In Mohave and Yuma counties, quartz and placer mining is being followed with great success. Near Hardyville, Mohave County, some Mexicans have struck surface diggings that pay well. We understand that work upon the Williams' Fork copper mines will soon be resumed.

COLORADO.

Georgetown *Miner*, Dec. 10th: Work on the Emmet lode is progressing favorably, and the crevice is carrying a fine body of mineral....Mr. Linn is taking out some very nice ore from the Denning lode, on Republican Mountain. Work on the adit is progressing rapidly....Stewart is engaged in smelting ore from the Robert Emmet lode, situated on Sherman Mountain.

The crevice in the Elephant lode on Brown's Mountain, is six feet four inches wide, between solid granite walls, carrying strings of very fine mineral through the gangue. The shaft is only 10 ft. deep, as yet, and the ore from the grass roots assayed $247 per ton. The ore carries con-

siderable brittle silver....We were shown a day or two since a fine button of silver bullion, weighing 28 ozs., which was taken from 50 lbs. of ore from the El Dorado lode situated on Saxon Mountain. This is at the rate of $1,472 coin, to the ton of ore. The owners of the property are running an adit on the vein, which is now in 50 feet, and carries from two to ten inches of sulphuret ore.

The shaft on the Terrible lode is now 112 ft. deep, carrying from eight to ten inches of first class ore. The ore vein on this lode has been continuous from the surface down.

Promising silver discoveries have been made in the northwest portion of Cascade district. As far as developed the veins carry decomposed quartz, black and gray sulphurets of silver, some little galena and a trace of zinc blende and copper....Ten lodes, considered by competent judges as true fissure veins, have been discovered. Among this number is the Charter Oak, which has been worked the most and has a crevice from 20 to 24 inches in width.

It is an undisputable fact that our mining interests were never in as healthy condition as at the present time. During the season it has been conclusively proven that silver mining can be prosecuted with profit, and that we have a large number of veins that will pay for developing. This has been proven by slow and tedious hand labor. But a new era is dawning upon us in mining. The introduction and successful operation of the Burleigh machine drills, the rapidity with which tunnels and levels can be driven and shafts sunk by their use, gives a new phase to the problem of quickly reaching great depths, as well as to the increase in the production of ore.

IDAHO.

Walla Walla *Statesman*, Dec. 11th: A miner just down from Perry Creek brings late news from the new diggings: In following up the creek the gold is found to be much coarser than at the place where the original discovery was made. All the claims had been laid over for the winter. A large party of Chinamen, under the protection of the Gold Commissioner, had attempted to gain a lodgment in the new diggings, but were driven off by the miners. The ground as far as prospected showed a yield of an ounce a day to the hand, but many of the claims will pay much better than this. Some 200 men will winter in the mines. The discovery was made too late in the season to ascertain with any certainty the extent of the mines, but the belief is that the camp will be a large one—numbering probably 2,000 miners. A large number of Montanaians are wintering in the Bitter Root Valley, preparatory to making an early start for the mines in the spring.

NEVADA.

HUMBOLDT.

Unionville *Register*, Dec. 26th: Fall & Co. shipped this week, per Wells, Fargo & Co's express, 2,000 ounces of fine bullion.

The Silver Mining Co. shipped this week, per W. F. & Co's express, 1,876 ounces of bullion.

Buck & Kimball are steadily at work on the Pride of the Mountain ledge. They have run short tunnels to the ledge at four different points, and struck rich ore in each. The most substantial work yet done is an incline tunnel, now in 100 feet, at the bottom of which the ledge is four feet thick, beautifully cased in granite, and separated from the walls by a thin sheet of clay. Sufficient work has already been done on the ledge to prove it a true fissure vein of enduring richness. The proprietors are having the ore sacked and shipping it to Swansea for the purpose of reduction. They have already made one shipment of 20 tons of assorted ore, that will work $500 per ton, and have 30 tons now sacked on the dump and ready for shipment, that is equally as rich. Parties in San Francisco offer to pay all charges, ship the ore, and advance 60 per cent. of the pulp assay and the balance when they get returns, which takes on an average about seven months; but I understand that the company thus far have asked no advances, preferring to ship on their own responsibility.

REESE RIVER.

Virginia *Enterprise*, Dec. 31st: The White Pine excitement continues unabated, owing in some degree to the favorable weather which has thus far prevailed, but principally to the exciting reports of parties daily arriving from that region. Men of all classes have but one story to tell in regard to the richness of the mines. Assayers, old mining superintendents, miners and all who have visited White Pine, agree in saying that it is the richest silver region ever discovered on the face of the globe. As to its extent, not much is known. Some eight or ten rich veins or deposits have been opened, and the owners of the famous Eberhardt have sunk a shaft on their ground to the depth of 85 feet, finding the rich ore to continue as far down as they have gone.

Austin *Reveille*, Dec. 24th: The mill of the Silver Peak and Red Mountain Co. which has been almost rebuilt during the past four months, is now working perfectly in every department. The mines—the gold-bearing ledges of Red Mountain are the only ones that are being developed at present—are producing large quantities of ore which is carefully assorted and classified as first, second, and third grades, the yield of which will range from $15 to $200 per ton. The quartz occurs in such vast quantities that the process of extracting it resembles quarrying rather than mining.

Dec. 28th: Yesterday, 10 bars of bullion, of the average fineness of .950, and valued at $12,747.33, were brought into this city consigned to W. S. Gage & Co. They were produced by the Centenary mill in the district of Newark.

A White Pine correspondent writes: While the mills here are engaged in crushing lots of ore from various mines, with about the average results, the mines are being opened with a fair, and, in many cases, with encouraging prospects. The high prices of labor, however, ($6 per day) now prevailing, tend to discourage any very extensive working of claims at present; there being but little object in getting out ore where there are no mills for crushing it. About ten days ago a streak of very high grade ore was struck in the Mazeppa claim, lying ¾ of a mile south from and about 500 feet below the Eberhardt mine. The discovery, which is really of importance, considering the excellence of the ore, its considerable quantity and the locality in which the ledge is situated, caused a great rush to the neighborhood, where there are now about 300 men, busily engaged prospecting for and locating claims, more than 100 of which have already been taken up in the vicinity.

Dec. 31st: Ten bars of bullion were brought into this city this morning by Wines & Co's stage from White Pine.

We learned this morning the result of the working of 90 tons of ore produced by the Aurora mine—not the Consolidated—of White Pine. The lot yielded six bars of bullion, valued at $10,667. The Aurora was bought by the brothers Stanford, of California, on the 12th inst, and we were assured that there were on its dump a few days ago, 300 tons of ore, the estimated value of which was $223 per ton. The 90 tons of ore which produced the six bars of bullion are represented to have been taken from the mass of the mine without any assorting.

[For late news from White Pine, see another page of this paper.]

WASHOE.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Dec. 29th: The Yellow Jacket Co. yesterday morning shipped by Wells, Fargo & Co., eight bars of bullion, weighing 614 pounds, valued at $17,686.99.

A drift for the opening of a new level at the depth of 1,080 feet from the surface has just been started in the Imperial-Empire shaft.

Dec. 30th: The new shaft of the Ophir is now down nearly 600 feet.

Jan. 1st: The Savage Co. yesterday shipped, per Wells, Fargo & Co., 13 bars of bullion, valued at $21,796.34, and weighing 845 pounds.

Jan. 3d: The total shipment of bullion from this city and Gold Hill during the past week, was 5,416 pounds, worth $149,406.68.

Gold Hill *News*, Dec. 28th: A good body of pay ore is developed and being worked in the Alpha mine, at the 900-foot level, being the same good streak found in the Imperial at the same level. It is about five thick, and lies next the east wall of the ledge.

The Pioneer mill at Silver City was recently started up.

NEW MEXICO.

Santa Fe *Gazette*, Dec. 5th: Rich silver mines have been discovered by a prospecting party in San Andreas Cañon from La Mesilla. The prospectors report most extravagant stories in regard to their richness.

The Albuquerque *Review* gives the following: Wm. Brentlinger, of Real de Dolores, reports further development of mineral at the Placeres, that Geo. G. Brown, after examining the prospect, has determined to remove his quartz mill from the Moreno mines thither, and it is now *en route*, that a new silver lead, south of Real de Dolores, assayed 240 ozs. to the ton on one trial, and over 600 ozs. to the ton on another.

A letter dated Sorocco, 22d inst., says: Hubbell and Chavez came into town last night from the mines. They brought in the precious metal, and have now 300 lbs. of it that is at least 50 per cent. of clear silver. The mines referred to are west of the Magdalena Mountain.

OREGON.

Portland *Oregonian*, Dec. 19th: L. W. Felton, who has just returned from a trip through Southern Oregon, showed us yesterday a specimen of almost pure copper, obtained from a creek in the Bohemia district. He represents that a company has a large lode near where this specimen was found, which is believed to be almost pure copper.

The mines on the Grand Ronde river continue to yield good wages to the few who are at work.

The Dalles *Mountaineer* gives the following from Cañon City: Several new claims have lately been opened on Pine Creek, near Cañon City, which promise from the prospects to pay well. The quartz mill of Williams & Co. has arrived and will soon be set up and put in motion. The location is about three miles east of town, near the Prairie Diggings.

WYOMING.

Sweetwater *Mines*, Dec. 12th: There are many gulches in the Sweetwater country that have not been worked at all, which will, in all probability, be worked next year.

There have been but two or three companies at work upon Rock Creek, this year, and they have worked upon the claims which were abandoned last spring, but their labor has been so amply rewarded that others have been excited, and now the whole gulch is re-located for three or four miles below Atlantic City, and two or three miles above the town. Undoubtedly the whole gulch will be worked next year, and a large amount of dust taken from it.

J. M. Neall, who arrived recently from the mines, brought with him two of the most beautiful nuggets that were ever seen in any country. The larger weighs nearly five ounces, and the smaller one about four ounces. They are of bright, pure gold, and were taken out while working with a long tom in spring gulch.

We were shown 61 ounces of beautiful gold dust, at the bank of Tiernan & Williamson, recently. The dust came from the placer mines on Sweetwater, and was of very fine quality.

We were shown some fine specimens of quartz this morning from the Nugget and Hartford lodes, in Sweetwater. The ore will prospect from 20 to 30 cents to the pound. The lodes are located in Shoshone district.

[Written for the Mining and Scientific Press.]

N. Y. Society of Practical Engineering.

MODERN IMPROVEMENTS IN MINING.

A regular meeting of the above named organization was held at the usual place, Cooper Institute Building, New York city, on Tuesday evening, Dec. 8th, the President, James A. Whitney, in the chair.

Mr. Wm. B. Harrison read the regular paper of the evening, the subject being "Modern Improvements in Mining."

The writer sketched the progress of this class of mechanism in the various phases, from the primitive wash-bowl to the improved machinery of modern times. The employment of new explosive materials in the operations of mining, tunneling, etc., was considered at some length, after which the writer explained the structure, operation and resultant advantages of the pumping machinery commonly employed in England and the United states in deep mining.

The verbal consideration of the subject, which followed the reading of the paper, related mostly to the mining of the precious metals. A. W. Hall, of New York city, stated that during his mining experience in the Rocky Mountain gold-bearing district, the greatest difficulty encountered had been in the separation of the gold particles from the black sand, in which they occur. This separation was the most effectually secured by the common method of amalgamation, a process which has of late years been greatly improved by the application of the mercury as a coating on copper, this mode effecting a great reduction in the quantity of mercury required. The speaker also described an amalgamating device of his own invention, with which he had secured very good results. In this apparatus the pulverized ore, suspended in water, is carried by the current through a syphon furnished at the lower extremity of its long arm, with an elbow or head. This elbow forms a kind of receptacle or chamber, which, being filled with mercury, the ore is carried through the latter, and thus the amalgamation of the gold is brought about.

A gentleman present, who stated that he had passed some years in California, gave an interesting description of the system of hydraulic mining in use in the above named State, and doubtless familiar to all or most of the readers of the MINING AND SCIENTIFIC PRESS.

A member explained the calcination and treatment of sulphurets containing precious metals, as ordinarily carried on. He also mentioned the necessity of pulverizing certain silver ores in a dry condition, and recommended for this operation the apparatus consisting of stamps working in an air-tight chamber, from which, by a strong blast of air, the fine particles are carried to another chamber, where, being allowed to settle, they are collected for subsequent treatment to separate the silver.

Dr. J. V. C. Smith, ex-Mayor of Boston, gave a brief but interesting account of a personal interview with the celebrated Humboldt, in which the latter stated that the immense expenses of the Russian government were sustained in no small degree by the products of the gold mines in the Ural Mountains.

Dr. Smith also described an antique turbine wheel which he had seen in operation during his travels in the Orient, in one of the valleys of Anti-Lebanon. The Arab attendant asserted that wheels of this kind had been used by his forefathers from time immemorial.

This discussion was kept up with much spirit and interest until the hour for adjournment, but related mainly to minor points concerning the subject in hand. Attention was called to the fact that the flutter-wheels employed in the Sacramento Valley are identical with the Persian wheels used in remote antiquity for raising water upon the banks of the Nile and the Ganges. It was also remarked that among barbarous people the mining of precious metals is confined to obtaining them from where deposited in a simple metallic form, while the operations in the same line among enlightened races the greatest and most profitable results are secured by costly and complex processes and elaborate machinery for separating the minute particles from their combinations with other materials.

The society adjourned for two weeks, after the announcement from the chair that the stated subject for the following meeting would be "The Prevention of Disasters at Sea."

CO-OPERATION.—John Stuart Mill has recently written a letter upon this subject to the *Illustrated News*, in which he makes use of the following language: "I am quite of the opinion that the various forms of coöperation (among which, the one most widely applicable at present to production, as distinguished from distribution, is what you term the system of small percentage partnerships) are the real and only thorough means of healing the feud between capitalists and laborers, and while tending to supersede trade unions, are meanwhile a natural and gradually increasing corrective of their operation."

"BOURBOUZE."—The new French gas light under this name is thus prepared: Coal-gas, intimately mixed with atmospheric air, is urged by gentle pressure through a tube, and passed through a metal plate full of little holes. Many jets are thus formed, which, after being driven through a fine tissue of platinum wire, are lighted. The platinum soon becomes white hot, and so brilliant that the eye can hardly bear it. One cubic metre of gas is consumed per hour.

THE Union Foundry of San Francisco will furnish the machinery for the grain elevator at South Vallejo.

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W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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San Francisco:
Saturday Morning, Jan. 9, 1869.

Notices to Correspondents.

BAROMETER.—No reason seems to have existed for predicting that the present winter would be a very dry one, and consequently adverse to the growth of the forthcoming wheat crop. On the contrary, as far as ordinary appearances have occurred, reasoning from the analogy of former years, at least an average rain-fall for the seasons 1868-69 might fairly be anticipated. Our rain-fall, and the general hygrometric state of the atmosphere, is usually found to depend so much upon the direction of the wind, rather than its specific gravity, that the useful instrument whose name you have assumed as a *nom de plume* has, with many in this State, almost fallen into disuetude. Occasions, however, occur sometimes in which the indications of that valuable instrument may be studied by the working farmer to great practical advantage. A very instructive lesson of the kind has taken place during the current week, the first part of which, to all external appearances, threatened a very heavy and continuous rain-fall. Owing, however, to the denser condition of the atmosphere as indicated by the barometer, we were only annoyed with dense fogs, which cleared off as the sun became more powerful and approached its meridian. * * As these remarks were written during the fine days of the commencement of the week, superficial observers may imagine that the observations made have been negatived by the rain-fall which took place on Thursday evening, which, however, did not occur until a fall in the barometer had taken place, and even with that fact the pluviose element ceased on the appearance of day.

H. W. O. M., Boise City, I. T.—The name of the gem is not chisoprase, but *chrysoprase;* the magazinist referred to being at fault. Your Greek scholars will have no difficulty in finding the roots of the latter word. The mineral is a leek-green, translucent quartz, more properly chalcedony, colored by nickel. From *chrys,* gold, and *prase,* leek,

COMMUNICATIONS have been received from "C. H. A." Owen's River; from "H. M." Boise City. "P. S." Batopilas, Mexico, is in typo and will appear next week.

L. C., Monitor, Alpine County.—Your *suite* of rocks and minerals met with in your tunnel, is interestiug, and will be attended to.

THE NEW MINTS.—During the past year the Branch Mint building at Carson City, Nevada, has been completed, and the necessary machinery and fixtures have been forwarded. The new Mint at San Francisco will not be long in getting into operation. Its cost is estimated at upwards of a million of dollars. The entire deposits at the Branch Mint in San Francisco, were formerly in unparted bullion; now nearly two-thirds of the amount is deposited in bars refined by private establishments.

Amalgamation with the Aid of Electricity—The Nolf Process.

We are enabled, this week, to furnish our readers with something more definite regarding the Nolf electro-metallurgical process, whereby an electric current is brought to bear to facilitate the desired chemical operations in pan amalgamation, under conditions in many respects nearly identical with the Patio Process. Such is Mr. Nolf's invention,—reference to which, in our columns, will be remembered in connection with a notice of experiments that have been making at the Union Foundry under the auspices of Mr. Pioche, the especial patron, and substantial abettor, of the process.

A number of metallurgists and mining engineers were present, at the somewhat extensive works which have been called into existence for especial development of this process, on an extensive working scale, at the corner of Valencia and Seventeenth streets (Mission), on Tuesday last, to witness the first public test of the principles whose practical application to meet our great recognized metallurgical want—a process of gold and silver amalgamation without roasting in presence of base ingredients—has occupied the close attention of a number of very competent men that we know of, for months, and even years, so far as Mr. Nolf is concerned; and the results of which are now given to the public in a manner so definite, and so plainly indicative of entire confidence on the part of the experimenters, who have thoroughly tried it all, and of financiers, too, that we feel justified in calling attention to the process as one certainly promising a great deal on that ground alone; and as worthy, in virtue of its importance, of the examination of all who may be in a position to derive benefit from the attainment of so important a desideratum.

But the process is really well founded theoretically, on incontrovertible principles of science, and in a most interesting department thereof. It is such as one may take pleasure in tracing, from useless observed phenomena into theory, and from generalizations into practice, where it may possibly be worth its millions to the industries of a people—a practice which links our every day, money-making pursuits, with the operating force which lies, as we shall see, at the very foundation of the philosophy of all things terrestrial,—to the profoundest central principle to whose operations mortal reason has been able to trace the foundations of chemistry, geology and physics—the very *ultima thule* of science, where we become alchemists again, like our metallurgical predecessors the fathers of civilization in the middle ages, but on a basis of enlightened and established truth; a field where, in apprehending the electrical nature and characteristics of the affinities between simple elements, we find ourselves at the boundary, still groping in darkness, where we discover analogical principles governing the birth and procedure of vegetable, animal and spiritual life. We arrive at the great and mysterious first principles of the Positive and Negative, the giving and the receiving, the masculine and feminine principles, which exist as the fundamental moving cause throughout all nature; from electricity, the attendant and equivalent of all chemical action, to like material manifestations of a more subtle character, concerning the higher laws of which we are not yet able to generalize.

It was Becquerel, the renowned author of "*Traite experimentale de l' ectricite et du magnetisme*" (1834), who, in the midst of his enthusiastic labors in this field, first sought to take advantage of the facts that artificial electricity will facilitate not only chemical decomposition of compound substances, but also re-combinations, under certain conditions; that the metallic elements are all relatively to each other positive and negative, in the order (according to Berzelius and others), from positive to negative, of the earths, zinc, iron, lead, tin, bismuth, copper, nickel, silver, antimony, mercury, platina, gold; being conductors of electricity, and of heat, in nearly the same order; that when they are put together in a tub, and a current of electricity is led through the same, they are attracted and caused to move, relatively and respectively towards the positive and negative poles, in the same order and relation to each other.

Non-metallic elements observe the same law; the simplest illustration of which is the decomposition of water in putting the positive and negative wires into it, the oxygen gas gathering around the positive pole, and the hydrogen around the negative, so that they may be caught in inverted glass bells, and tested, by burning separately, showing a difference of color in the flame, etc.

The salient laws, touching this electro-metallurgical process, were developed, however, by numerous others besides Becquerel. It was only in 1800 that Galvani and Volta discovered galvanism – chemical electricity—; then Brignatelli made a long list of experiments showing how the fluid would decompose different salts, transferring the elements to different poles; and Cruikshank, the discover of the galvanic battery, observed how the metals in acetate of lead, sulphate of copper, nitrate of silver, etc., were separated out, or "revived," as the expression was.

Becquerel established metallurgical works at Greuelle, near Paris, and labored enthusiastically in the attempt to make some practical use of these remarkable principles, but without success by the dollar criterion (which governs metallurgy as inevitably as does natural law)—and others, both wise and unwise, have tried it since, with various results, the history of which would occupy too much space to be gone over in this connection. *Dingler's Polytechnic Journal,* and the *Berg und Hittenmannische Zeitung* have had accounts of recent attempts in Europe. THE MINING AND SCIENTIFIC PRESS, page 306, Vol. XI, contains an account of various trials in connection with amalgamation, at Gold Hill, and other places in Washoe, at different times, and within a few years. Amongst the experimenters were John A. Scott, S. Kean, B. R. Norton, Col. Brevoort, and others, both in this city and in the State of Nevada.

Mr. Nolf is not a new experimenter in this matter. He has been cognizant of all the difficulties that were encountered, and has labored with very creditable perseverance in his endeavors to overcome them. He was himself a pupil of Becquerel's, from whom he proudly acknowledges that he obtained his ideas, while his own success and the credit to which he is entitled, are to depend on the degree of making the same practically and economically available. How far California will be indebted to Mr. Nolf, we hope to be able to show hereafter, by further details of practical tests at his works, than we are able to find room for at present.

The establishment at the Mission consists of a large working room; a pan, or rather a tub, being of wood, of large size, to contain and manipulate the ore; a very powerful voltaic battery, of about forty vessels, arranged on a table along one of the walls; a laboratory in an adjoining room; a number of tanks outside, to wash the amalgam; and numerous tubs, tanks, crushers, with assaying tools, etc.

As an illustration of the basis of the process, our attention was first called to an interesting experiment, made with some quicksilver in a large porcelain dish containing also salt water. The two poles, represented by the two wires of the battery, were brought into the salt water on opposite sides of the quicksilver; the result was, that the metallic substance eagerly ran to the negative pole, and followed it wherever it went. Then the negative pole was taken out, and the positive pole put into the middle of the quicksilver bath; immediately its surface began to tarnish, to coat over, whitening and becoming variegated with chloride of mercury (calomel, Hg^2 Cl) which increased so rapidly that it must finally have destroyed the quicksilver. But the wires were now placed again as at the beginning, and in half a minute, with a little stirring from the negative pole, the calomel was entirely decomposed, and the quicksilver was as bright as ever. During all this there was a very distinct smell of chlorine gas, arising from the decomposition of Na Cl of the salt water. It was remarked, as a point that might have some influence in the Nolf process, that the separation of chlorine might leave the sodium in a condition to form sodium amalgam; but it is doubtful as to whether the sodium would not be in an oxidized, rather than in a metallic condition.

Next a quantity of sulphate of copper was poured into the dish. While the electric current was applied, no result was observable, but from the time it was removed it was not long till the quicksilver was almost entirely destroyed by the chemicals; the coating being darker and thicker in this instance than in the previous one, and the destruction more rapid. Here bi-chloride of copper (Cu Cl) was formed, with the calomel on the surface of the quicksilver, and sulphate of soda in the solution. The wires were now applied once more, and in a few minutes the quicksilver bath was as clear as before; the effect of the electric current having been to reduce the bi-chloride of copper to the sub-chloride (Cu^2 Cl), which is harmless to the quicksilver. Electricity, therefore, prevents the formation of the destructive bi-chloride of copper in amalgamation, or if the same be formed, reduces it.

As the chemicals used are the same, in operation and in fact, as the salt and the magistral used in the patio process, these experiments will be admitted to have a definite value. It is true that the chemistry of the patio process is explained in half a dozen different ways; but the ordinary one is that the bi-chloride of copper acts on the sulphide of silver, and the elements interchange, forming sulphide of copper, and chloride of silver: (Cu Cl + Ag S = Cu S + Ag Cl).

Concerning the operations in the pan or tub, there were put in 700 pounds of Alacran (Copala, Mexico) ore, consisting of mixed sulphurets of iron, copper and silver; a very complex, refractory, roasting ore, which cannot be treated at all by the patio process. After 20 to 24 hours of working with this ore, they have obtained 80 per cent. of the fire assay. On a smaller scale they have obtained 92 per cent.

The tub is, of course, insulated as well as the battery, standing on glass plates. A simple stirring apparatus revolves in the tub (by hand power at present) and the negative wire connects with this, being so arranged that the current runs down on the copper covering of the stirring arms, and thence passes through the pulp to the inner surface of the tub, which is copper lined, for the purpose of affording a conductor. The bottom is of wood.

In working, the quicksilver being at the bottom, and there being no grinding, little particles gradually become detached by mechanical mixture with the pulp, and follow the stirring arms in virtue of their electrical attraction till the entire pulp has been searched, and the amalgam finally is collected as much as the friction will admit, on the stirrers.

There was an evident tendency of the amalgam formed in the tub towards the stirring arms, or negative pole. It could be sliced off, after a few hours, with a knife. On accumulating to a certain thickness, some of it would fall off, but the electric action is in no wise hindered,—on the contrary strengthened, by the thickness of this coating, precisely as is the case in the electrotyping process,—which might have been referred to in many other respects in illustration of the principles here described.

Of the actual chemical decompositions that took place in the pan, we may say something hereafter, though that question can scarcely be met by anything more than conjecture at present. We know that chlorides are first formed, and these are then amalgamated.

In washing the pulp, after amalgamation, it is run over copper plates charged from an electric battery. The little particles which are ordinarily so apt to be washed away, are thus powerfully attracted to the copper plates and easily induced to separate themselves from baser substances.

We intend to report the progress of this important process from time to time.

OFFICE REMOVAL.—The office of the Mohawk and Montreal Mining Company, Nevada County, has been removed to this city, No. 414 California street, by vote of the stockholders.

California Petroleum and its Utilization.

Reference was made a few weeks ago to the non-utilization of our California petroloum, while thousands of barrels of it might be had in the market at a very short notice, from the southern coast. Whatever the real difficulty was, the significant fact remained undisputed. We stated that the California petroleum was heavier than the Eastern, and that objections had been made to it on the ground of its showing a greater liability to smoke. It is claimed by those whose opinion is entitled to respect, that California petroleum is in reality as good as the Eastern for lighting purposes; that, having more body, it will burn longer, and at the same time fully as brightly as the Eastern.

A little chemical information about the separation of the oils into their constituent elements, will best illustrate the position of things. Oils are called hydro-carbons, being combinations in varying proportion of the carbon, or coal-ingredient, of vegetable growths, with hydrogens; and sometimes there is a small amount of oxygen added, which does not necessarily belong to the nature of oils. Whether fixed, fluid, or gaseous, their nature is still the same—they are hydro-carbons, or carbureted hydrogen, in slightly varying combinations of the two elements.

The explosive gas in coal mines,—which may be heard issuing from solid coal with a faint crackling noise,—is CH_2; the bad smelling gas of swamps and ditches, where there is decomposing vegetable matter, is quite the same, but harmless because unconfined. Coal lying long exposed in open heaps becomes less valuable on account of this spontaneous distillation. When the carbon doubles, making C_2H_2, as is the case in the olefiant (oil-making) gas of the laboratories, the burning produces a brighter light, as there is more carbon to become incandescent in the act of burning with hydrogen, while hydrogen alone would make only a faint blue flame.

The distillation of these carbureted hydrogens from vegetable bodies, is a constant process of nature. The same thing is done artificially in making coal gas, for lighting, which contains, besides carbureted hydrogen, also carbonic oxide (CO) hydrogen, and nitrogenous "azote," in varying proportions.

It has been maintained by Silliman and others, that the California petroleum is not a product of the dry distillation or carbonization of coal deposits. Antisell and other authorities hold that the Pennsylvania oils are, however, derived from the adjacent coal beds by a perfect process of natural distillation.

Asphaltum is nothing but oil, thickened after the disappearance in the air of the more volatile ingredients, called petroline and naphthaline. The ordinary asphaltum is usually mixed, to a large percentage, with vegetable and mineral substances.

When fine distinctions are attempted, the chemistry of oils becomes an exteusive and complex subject. A little difference in the proportions makes a substance frequently having marked variations as to its characteristics. *Paraffine* is the name given to the product crystallizing like fish scales, which results from distillation of organic substances at temperatures below a red heat; its composition being $C^{20}H^{21}$. When the temperature rises to 340° and 400°, the oils obtained contain creosote, called carbolic acid when it crystallizes.

The heavier oils obtained by distillation contain a singular organic product, first discovered by Fritsche and Runge, which was called by them "Aniline," possessing the property of giving, with certain reagents, the magnificent colors which are now universally used to dye textile fabrics for ladies' wear.

Asphaltine, $C^{20}H^{16}O$, is another of these special products, which particularly characterizes California petroleum, while *Paraffine* is the special characteristic of the Atlantic petroleum. It has simply less hydrogen than paraffine, and is partially oxidized. It is identical with Petroline ($C^{20}H^{16}$) except that it is oxidized, and is therefore solid and fixed, while the former is fluid and volatile.

The cause of this chemical difference between California and Atlantic petroleum may be found in a different modification of the natural manner of distillation by which they were produced, and by the degree of exposure to the air, as well as, perhaps, by the nature of the vegetable substances from which they were derived; which in California were of the Tertiary Age, while in Pennsylvania they were of the Carboniferous, embracing plants of widely different orders.

The discontinuation of the several petroleum refining establishments, which were in operation in San Francisco some time ago in connection with Hayward & Coleman's, Stanford's, and the other oil firms, was owing to the fact that Eastern petroleum could be put in the market at a cheaper price than the figure at which California petroleum could be refined. More definitely speaking, the price of sulphuric acid and caustic soda in this country has been too high to admit of carrying on refining with profit. Therefore it has been abandoned for the present.

Concerning the status of petroleum enterprise, the bulk of it is concentrated in the San Buenaventura Commercial, Manufacturing and Mining Company, incorporated with a capital of two and a half millions, and owning all the springs and wells at Santa Barbara, embracing large tracts of land selected with regard to its petroleum indications,—excepting the Ohai well, situated further inland. This company is at present quietly awaiting the issuance of a patent for some of the lands which have been decreed to them by a late decision of the United States Supremo Court at Washington. Leases have been held by Stanford, and by Hayward & Coleman, etc., for a limited period.

The burning of petroleum is still a question which attracts much interest and attention from engineers in the East and in Europe. Foot's and White's burners are the only ones that have been tried in California, to any extent. The former made use of steam and common air, which were pumped into the burner by means of an air pump, the steam being decomposed by combination of its elements with vaporized oil. A long report has been made, giving the results of experiments and workings at the Ætna Iron Works.

White's burner was in operation for three months at Hanscom & Co's foundry. The necessity for pumping is avoided by its use, but the chemical operation is the same as in the Foot burner. Steam is first conducted through a cylinder containing glowing iron filings, which separates it into hydrogen and oxygen; the resulting gas then enters the burning cylinders where it meets the vaporized oil. The addition of so much hydrogen to the carbureted hydrogen gas filling the cylinder, furnishes a burning material capable of giving the most intense heat, in burning with the oxygon of the air through nipples regulated by suitable stops in the upper part of the cylinders, whence the flame strikes against the boiler. Two gallons of water are thus burned, to one of oil, and about 20 per cent. of the heat obtained is considered to be derived from the burning of the hydrogen of the water. The engine at Hanscom's was 25-horse power; the oil used 6¾ to 8 gallons an hour, at 7½ cents per gallon, making $7.20 in 12 hours. No fireman, or attendant of any kind, is required with this burner, more than in the use of a lamp. Comparing the cost of coal required in order to perform the same service, it was found that one ton of slack coal or screenings (the cheapest and poorest quality of coal), costing $6.75 a ton, furnished about the equivalent as to power; but a fireman being required, the inventor claims an advantage of 45 cents a day in favor of the petroleum burner. Wood being used in Nevada, costing $16 a cord; at about ten cords a day, making $160, it is estimated and claimed by Mr. White, that $7 to $8 a day could be saved in each mill by the use of petroleum shipped from Santa Barbara.

Mr. Mowry, lately a clerk in a hotel at Colfax, is requested to call at the office of the MINING AND SCIENTIFIC PRESS, No. 414 Clay street, below Sansome, San Francisco.

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17 4m

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

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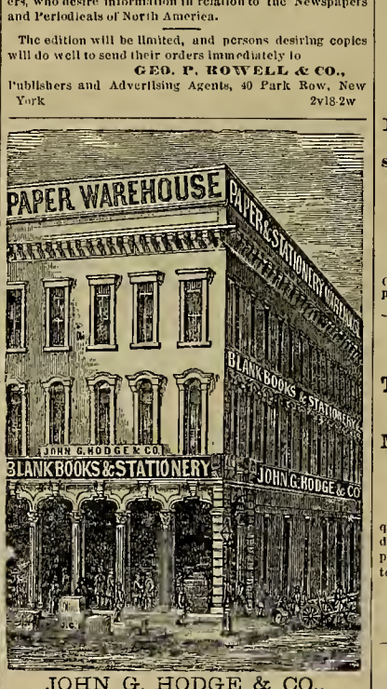

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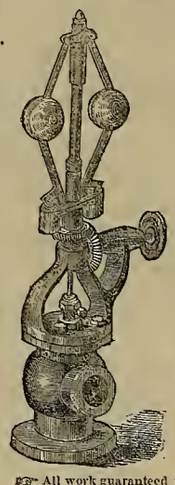

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How Brick Houses may be Built Earthquake-Proof.

EDITORS PRESS:—Permit me to give you my views in relation to the construction of brick buildings in the shaky portion of California. Take the plan of a house 40 x 80 feet, three stories, of 12, 11 and 10 feet. Make a foundation of 2-inch plank, put together, every course saturated with hot asphaltum and coal tar; break joints, and fasten with wooden pins, put in at a little augle; make the depth 18 inches, or nine planks, and the thickness 20 inches. By making this foundation of plank, you discover any rot that might exist in solid timber, and the asphaltum cement being diffused through the entire timber, will protect it from decay.

Build upon this foundation your brick wall, of sound, strong brick; make the thickness of your wall equal to the length of two bricks, or one and a half bricks, with a hollow of one and a half inches between the out and inside courses. Every nine courses in hight put on a course of headers, running through the full thickness of the wall, leaving out every alternate one; then fill in the hollow space with hot asphaltum and coal tar cement, and so continue to the completion of the walls. The walls should be capped with timber six inches thick, and as wide as the thickness of the wall. This plate will permit the wooden cornice to be fastened thereto.

Vertical iron rods should pass through the wooden sill, extend up through the space between the two walls and pass through the top plate, secured by a large iron head at the bottom of the sill, a large iron washer and nut at top, and placed sixteen feet apart. I would recommend the usual vertical angular quoin plates at each external angle of the building of cast iron; horizontal wrought iron rods at the termination of each story in hight, passing from flank to flank, and from front to rear, and passing through the quoin plates, and to be fastened thereto. The upright iron rods should be one inch and a quarter, the horizontal rods one inch in diameter.

The center girder of the first floor running parallel with the flank walls may be supported by a wooden arch, made of inch boards put together with nails, about ten inches thick and deep, each course of boards to be saturated with hot asphaltum cement, and to be a segment of a circle the entire length of the inside of the building with strut braces, from the crown to the underside of the girder for its support. The feet of this arch should be well fitted at each end into a heavy wrought iron shoe, well saturated and imbedded in asphaltum cement. The two iron shoes should be joined together by two iron rods, one and one-fourth inch in diameter, forming the chord of the arch. They should also be imbedded in asphaltum cement, and kept even with the cellar floor.

At right angle to the first girder, and upon the top of the same, there should be cross timbers placed about fifteen feet apart, and in one piece from wall to wall. They should be so placed in each story, and in the roof; they should be six inches thick, and of even depth with the joist. The ends of the cross timbers and joists should rest upon bond timbers 4x5 inches; the cross timbers should be bolted to the girder and bond timbers with three-quarter inch wrought iron bolts, and iron rods three-fourth inch in diameter, with an eye at one end to bolt to the end of cross tie, and a screw at the other end to pass through a cast iron flange on the outside of the wall. The inside finish of the house is a matter of taste and convenience. The side walls may be plastered as is usually done, but the ceilings should be finished with board lining, plain or ornamental. The floors should be laid in the usual way. There is no strength gained by laying the boards angularly. Through nailing of floors is stronger than secret nailing, but not so convenient for the carpenters, nor does the floor look as well when done with two nail holes in the floor over each joist to harbor vermin and dirt, as where the nails are hidden.

All timbers should rest upon the walls where it can be made so, for their weight

gives strength to the walls; and where they are properly iron-fastened to the walls, they establish a one-ness to the whole fabric.

One thing is certain—that while masons continue to use such an excess of common lime in their mortar, as one third, instead of about one-eighth, they never can have a cement that can be relied upon. Masons generally suit their own convenience, not the public good, in the preparation of their mortar. Legal statutes only can make a change for the better in this respect.

External cornices and ornamental work should be made of sound and durable wood, and I can see no impropriety in encouraging a proper diffusion of architectural ornaments upon the exterior of buildings, where they are in harmony, begetting pleasure to the eye from their natural fitness.

To recapitulate: *First*—The plank foundation put together and saturated as above, with hot asphaltum and coal tar cement, defies decay and promises long endurance.

Secondly—The hollow walls, which are to be filled with hot asphaltum cement, so as to permeate the brick and mortar, and fill up all interstices, establishing a unity in the substance of the brick walls, such as no other material known can do at the same cost, will resist all damp without, and insure a dry house within.

Thirdly—The segment arch for the support of the center girders instead of piers, throws the bearing weight to two places in the front and rear wall bearings.

Fourthly—The vertical and horizontal iron rods, the binding plate at top of walls, the cross ties, iron fastened, the angular quoins and the flat asphaltum cement roof combined, will make as firm a structure of brick as our necessities require.

J. H. WHITE.

RAILWAY EMPLOYEES MUST NOT BE COLOR-BLIND.—The necessity for a ready distinguishing between red and green is especially evident in the case of railway employés, who are guided by colored signals which must be instantly obeyed. Grave errors have been committed by men who were afterwards found to be totally deficient in the capacity for making the distinctions, and who were themselves ignorant of the fact. In France, the surgeons of the railway companies now subject all candidates for employment to a careful examination upon this point.

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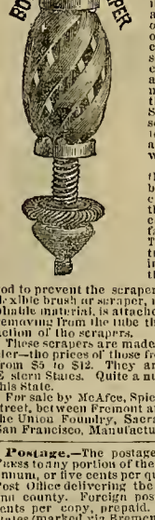

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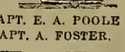
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Different sizes of Redwood Balusters constantly on hand for sale. Also Spanish Cedar, Walnut and California Laurel.

15v17-3m N. P. LANGLAND.

Silk in Los Angeles.

Our old friend Louis Prevost, Esq., of San José,—the silk pioneer,—still lives. Nothing pleases him better than to recount the facts which accumulate from seasou to season in proof that the picture, drawn by him three or four years ago, of the future of the California silk culture, was not too highly colored. He sends us a letter received by bim in November, from Thomas A. Garey, of Los Angeles, describing his season's work. We give a portion of this letter, from which it will be seen that nearly two hundred thousand worms were fed from ten tbousand mulherry cuttings, planted last spring. In Mr. Prevost's "California Silk-Grower's Manual," he hases his estimate of profits per acre upon the yield of trees four years old; but it would seem that under tbe peculiarly favorahle conditions of soil and climate to he secured in Los Angeles, the same result may be obtainable in a single year from the planting:

"The first crop of the season was hatched and fed hy D. F. Hall, of San Gabriel. He states that the eggs commenced hatching the 15th of April, aud commenced spinning tbe 1st of June, making forty-seven days from eggs to cocoons. The numher fed at tbis feeding was 40,000, 'fed from 10,000 cnttings four months from planting.' The variety, Chinese Annuals.

Tbe second crop of the season I hatcbed the 25th of May. Commenced making cocoons on the 3d of July, being forty days from eggs to cocoons. Number fed, 20,000. Varieties, Chiuese, Turkish and Portuguese Annuals

The third crop I commeuced hatching the eggs the 5th of July. Commenced making cocoons August 7th, thirty-two days from eggs to cocoons. Variety, Japanese Trivoltines. Number fed, 3,000, from cuttings of spring growth.

Fourtb crop commenced batching August 31st. Commenced spinning September 26th—twenty-seven days from eggs to cocoous. Variety, Japanese Trivoltines. Number fed, 98,000. Fed entirely from 10,000 cuttings hetween eight and nine mouths from planting.

Fifth crop now hatching Nov. 7tb. I can see no reason why they will not do well. This crop is more experimental than otherwise. The eggs, as well as the different crops spoken of above, hatched spontaneously, without any artificial beat whatever."

Inventor's Exchange.—The *Scientific American* urges the establishment of a "National Invention Bureau" in New York. It says:—"What we need is at least ono national collection of new inventions, where tho machines or devices are not labelled and filed away in glass cabinets, but aro exhibited in operation, so that 'he who runs may read.' This can hardly be done by private enterprise, hut should be the result of association; such an association as would demand and secure the confidence of manufacturers, mechanics, inventors, and others interested. The American Institute is the proper body to establish such a bureau in this, the commercial metropolis of the country. That it can he done without governmental aid, National or State, is evident to one who bas the means of forming an opinion. That it would be self-sustaining, and even profitahle, there can he little doubt. Every exhihitor to this perpetual fair would willingly pay an entrance fee for his invention, and a rent for space allotted to him, and for power employed. He could well afford it, as the action of his machinery, governed hy his ageut, who should be competent to explain its operation and advantages, would he a perpetual advertisement, more powerful than columns iu a daily or weekly journal. Besides this, the products, or a certain percentage of them, might be claimed hy the Association, and thus another source of revenue to the enterprise he opened. Of course, such an establishment would become one of the 'lions' of tbe city. Everybody who visited New York would think their visit to have failed of its intent if they did not see the contents of the Mechanics and Inventor's Museum."

Would uot something of this kind be worth carrying out in San Francisco?

Mineral Spring.—Mr. Firebaugh, of Sycamore Creek, Fresno County, has discovered near his residence a fiue spring, whose waters are impreguated with alum and iron.

Beds of jet black marble exist in Tuolumne County.

New Inventions.

Fire and Earthquake-Proof Chimney. Peter Portois of this city, has applied for a patent on an invention called "Portois' fire and earthquake-proof chimney," which is constructed on novel principles. The flues, which may be of any number from one to half a dozen, are round and made of galvanized iron. Outside the flues and separated from them by a space sufficiently great to ensure entire safety is a double wooden box, well painted and fastened together, and the space hetween the boxing and flues and hetween the several flues is filled witb a concrete compound of clay, brick, gravel, etc., which cannot he burned away, and will not allow the fire or heat from the flues, if ever so great, to do any damage to the wood work. The cost of such a chimney would be 25 per cent. less than that of a common brick one, and auy mechanic can put one together in a few bours.

The Steam Plow at Oroville.—Speaking of the steam plow in process of manufacture at Oroville, the *Record* says:

The steam plow, now about ready for trial at the machine shop of Locher in this place, has all the advantages claimed for tbe Scotch invention, viz., lightness, durability, efficiency of work, and can he afforded cbeaper tban the Edinburgh plow. In fact, we claim for it all that the foregoing article calls for, and believe that it meets the great wants of the age—an agricultural locomotive. It can be made to perform all heavy agricultural work, such as hauling, plowing, harvesting, planting, sub-soiling, and can he run into the mountains, and employed for sawing and hauling fencing. It will he in operation next week, aud its success demonstrated.

Patent Globe.—Dennis Townsend, of Springfield, Vt.,—at one time Superintendent of public schools in Amador County—has invented a new globe for the use of schools, which is said to be superior to the globe now in use, from the fact that it can he changed from its globular form and used as a wall map, or folded up and put into an ordinary atlas. The iuvention is highly recommended by the Massachusetts *Teacher*.

Railroad Mail Bag Catcher.—The new mail bag catcher has been adopted on the Chicago, Burlingtou and Quincy Railroad. It consists of a rod of iron, with a rod branching off so as to form a V, in wbich the hag is caught. It is ranged across the side door of a car; has a handle to he worked by hand, and a string at one end, so as to break the force.

Method of Burning Brick.—D. C. Lucien, of this city, has applied for a patent on a new method of burning brick. Instead of burning the kilns with wood in the arches, he lays the bricks up with hroken coal betweeu them, and when tbe kiln is complete, sets fire to it at the hase. He hurned 150,000 brick by this process, at a cost of only $67.50; by the old method the cost is about $5 per 1,000.

Champagne Tap.—John Foster, of Marysville, bas patented an invention whereby a champagne hottle may he set up like a keg of lager, and tapped with a miniature faucet through the cork. When a little champagne for a cocktail is wanted the faucet is turned.

J. D. Stagg, of Santa Cruz, has invented a shiugle machine that will save the work of three men.

A gentleman in Reno has invented a new wood cutting machine, whicb is said to be an excellent thing.

Governor Blasdel, of Nevada, who visited this city recently on behalf of the Aurora Consolidated Mining Company of White Pine District, entered into a contract with Frank Livingston to furnish for one year all the ore which a 30 stamp mill, to he erected hy the latter, can work—from 8,000 to 12,000 tons—at $25 per ton, being half of the present White Pine rates; and the ores are to he worked hy Livingston to 80 per cent. of the fire assay. Gov. Blasdel estimates the average yield at $100 to tbe ton; so that 10,000 tons would produce $1,000,000.

Polytechnic Society.—The adjourned meeting of friends of the Polytechnic Society, to perfect its organization, takes place at the Mechanics' Institute on Monday evening next.

Agency at White Pine.—Alexander Bruckman, at Hamilton, Wbite Pine District, Nevada, will act as agent for the Mining and Scientific Press, in that locality.

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On the 6th, 14th, 22d and 30th of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR JANUARY, 1869.

The following Steamships will be dispatched on dates as given below:

January 6th—SACRAMENTO.....Capt. W. H Parker, Connecting with ALASKA, Capt. Gray

January 14th—MONTANA.....Captain A. We Connecting with RISING STAR, Capt. King.

January 22d—CONSTITUTION.....Capt. Wm. H. Hudson Connecting with HENRY CHAUNCEY, Capt. Connor.

January 30th—GOLDEN CITY.....Capt. W. F. Lapidge, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship GREAT REPUBLIC, Capt. S. Hoane, will be dispatched on MONDAY, January 4th, 1869, at 12 o'clock M., from wharf corner of First and Brannan streets, for HONGKONG, connecting at Yokohama with the steamer COSTA RICA for Shanghai.

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Mining Secretary.

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Office State Capital Reporter, 42 and 44 J street, Sacramento, Cal., July 15, 1868:

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New Mining Advertisements.

Patrocina and Dolores Silver Mining Company, Guazapares District, State of Chihuahua, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the ninth day of December, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
James Lang	125	5	$10 00
L H Perry	11	10	20 00
L H Perry	15	5	10 00
L H Perry	202	55	110 00
R Russing	213	5	10 00
B Russing	52	5	10 00
S S Emery	195	5	10 00
John Donald	212	10	20 00
W H Ryan	90	15	30 00
F S Ellmaker	180	35	70 00
P J O'Connor	146	60	120 00
James Doyle	192	5	10 00
Catherine Martin	215	5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of December, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, Cal, on Monday, the twenty-fifth day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. B. GIFFORD, Secretary.

Office, N. E. corner of Second and Howard streets, San Francisco. jan9

Mining Notices--Continued.

Alamo Gold and Silver Mining Company.—Location of the Mine, Lyon County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment (No. 12) levied on the twenty-fifth day of November, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. shares.	Amount.
R Perry	94, 97, 98, 99, 100	410	$102 50
W P Nudd	32, 33	20	5 00
C & F Elmer	43, 44, 45	50	12 50
G Otto	47	8	2 00
G Wexler	48	32	7 00
H F Rice	78, 79, 81, 84	100	25 00
R W Thompson	88, 104	35	8 75
J Pierce	92	50	12 50
O S Pierce	91	50	12 50
A H Phelps	101, 105	35	8 75
J F Smith	106	5	1 25
W Pickett	121, 122	50	12 50
G Reed	129	5	1 25
A P Everett	130, 221	40	10 00
A B Forbes	132	25	5 25
R Meacham	133, 205	25	6 25
Jas Merritt	205	25	6 25
F Martins	135, 144	20	5 00
F Lippin	136, 149	22	5 50
I W Raymond	137	20	5 00
H Van Lokren	141	40	10 00
H Schmeidell	143	10	2 50
G M Blake	145, 146	25	6 25
W K Pilut	156, 157, 200	65	16 25
J A Wright	158	25	6 25
G D White	161, 192	55	13 75
Robt Irwin	163	10	2 50
H J Underhill	164, 165, 166 167, 168	10	2 50
A P Stanford	173, 209	150	37 50
J T Haley	180	15	3 75
W E Wood	184	25	6 25
E T Peason	188	10	2 50
G H Sherman	191, 194	65	16 25
J P Dyer	193	5	1 25
L H Brook	195	2	50
T Lipplin	197, 201	25	6 25
S Hubbard	198	5	1 25
L Thompson	199	10	2 50
Tabor & Hill	28, 29	20	5 00
W B Mowry	208	30	7 50
J Fuller	210	5	1 25
W A Cameron	211	6 5-6	1 70
J G Pallen	212	10	2 50
H Rosekrans	214	10	2 50
O H Hicker	213	5	1 25
F A Fresiers	225, 226	25	6 25
C H Haley	220	50	12 50
D N Hawley	222	50	12 50
A N Humphrys	223	9 5-6	2 46
E P Flint	103, 185	35	8 75
E Sinel	224	10	2 50
J Hill	228	10	2 50
J Tabor	229	10	2 50
J Covington		7	1 75
Cochran & Covington		17 1-6	4 16

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Saturday, the sixteenth day of January, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. POPE, Secretary.

Office, No. 419 California street, (Room No. 5) San Francisco. jan2

Diamond Copper Mining Company. Location: Bockland District, Del Norte County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-eighth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Basler, M	105	2	$4 00
Bromer, G F	108	1	2 00
Bromer, J Jo	291	3⅓	6 67
Brown, Thomas	315	16⅔	33 33
Brown, Thomas	217	16⅔	33 33
Borris, B F	293	17	34 01
Foster, C L	294	2	4 00
Gould, Chas	287	5	10 00
Houck, J	292	17	34 00
Hank, C	302	2	4 00
Haley, C S	243	10	20 00
Kleinsorge, Wm	101	1	2 00
Klein-orge, Wm	258	2½	5 01
Kleinsorge, Chas	102	1	2 00
Kleinsorge, Chas	259	2½	5 00
Kleinsorge, Chas	260	3⅓	6 67
Mallard, G H	169	3	6 00
Mallard, G H	302	3	6 00
Mallard, G H	305	3	6 00
Mohr, L B M	110	1	2 00
Miller, John	198	8⅓	16 67
Randall, Robt B	271	10	20 00
Randall, Robt B	272	10	20 00
Randall, Robt B	273	10	20 00
Randall, Robt B	274	10	20 00
Randall, Robt B	275	10	20 00
Randall, Robt B	276	10	20 00
Randall, Robt B	277	1⅔	3 34
Randall, Robt B	294	16	32 00
Randall, Robt B	307	16⅔	33 33
Randall, Robt B	308	5½	11 33
Randall, Robt B	309	25	50 00
Rice, A W	53	2	4 00
Roth, S	109	3	6 00
Reeve, G B & Co	118	3⅓	6 67
Reeve, G B & Co	149	3⅓	6 67
Reeve, G B & Co	150	3⅓	6 67
Reeve, G B & Co	151	3⅓	6 67
Reeve, G B & Co	152	3⅓	6 67
Reeve, G B & Co	278	9½	19 00
Reeve, G B & Co	269	15	30 00
Steele, H	19	50	100 00
Steele, H	204	4	8 00
Steele, Anna	199	2	4 00
Suerkrap, John	100	2	4 00
suerkrap, John	220	6	12 00
Suerkrap, John	221	5	12 00
Rose, G	103	1	2 00
Schacht, H W	113	2	4 00
Schenck, E T	310	3	6 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-eighth day of October, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by B R Rollins, auctioneer, at salesroom, 522 Market street, San Francisco, on Thursday, the twenty-first day of January, 1869, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. COOLIDOE, Secretary.

Office, Boom No. 40 Merchants' Exchange Building, California street, San Francisco. jan2

Grant Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
P Calhon	186	10	$25 00
Wm H Cleveland	313	25	62 50
Mrs Ann G Cunnings	255	25	62 50
Jas H Foster	94	100	250 00
Jas H Foster	141	10	25 00
Jas H Foster	142	20	50 00
Jesse Gelb	73	25	62 50
Jesse Gelb	74	25	62 50
Jesse Gelb	75	20	50 00
Jesse Gelb	76	10	25 00
Jesse Gelb	78	10	25 00
Jesse Gelb	79	5	12 50
Jesse Gelb	80	5	12 50
S R Harris	293	50	125 00
S R Harris	298	50	125 00
S R Harris	318	50	125 00
Jas Kellogg	175	50	125 00
A J Jeghers	3	5	12 50
A J Jeghers	4	5	12 50
A J Jeghers	5	5	12 50
A J Jeghers	6	5	12 50
A J Jeghers	7	5	12 50
August Ludorf	244	10	25 00
Dan'l McLeod	299	90	225 00
Jno R Mason	128	10	25 00
Camillo Martin	267	20	50 00
Ford H Rogers	329	65	162 50
Louis Vesaria	319	25	62 50
Louis Vesaria	320	25	62 50

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on the thirtieth day of December, A D. 1868, at the hour of 1o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.

Office, No. 414 Montgomery street, San Francisco. dec5

POSTPONEMENT.—The above sale is hereby postponed until Thursday, the twenty-eighth day of January, 1869, at the same hour and place. By order of the Board of Trustees.

jan2 O. D. SQUIRES, Secretary.

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of December, 1868, an assessment of seven dollars and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of January, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of February, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary

Office, 318 California street, up stairs, San Francisco. d26

San Francisco and Castle Dome Mining Company. Location of Works: Castle Dome County, Arizona Territory.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fifth day of November, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm Butterfield	1 to 6 inc	600	$18 00
Wm Butterfield	13	26	78
Wm Butterfield	10	100	300
Wm Butterfield	11, 12 20-ea	40	21
Wm Butterfield	8, 9 100-ea	200	6 00
Wm Butterfield	148	34	1 02
Jas Devoe, Sr	34 to 37 inc	400	12 00
Jas Devoe, Sr	159	34	1 02
Names.	No. Certificates.	No. Shares.	Amount.
Mrs. Annie Devoe	26	50	1 50
Mrs. Annie Devoe	198	6	18
J. s Devoe, Jr.	27	10	30
Jas Devoe, Jr	28 to 32 inc	5 0	15 00
G W Bryant	40, 41, 42 5-ea	15	45
G W Bryant	43	10	30
G W Bryant	45 to 48 inc	100	3 00
G W Bryant	49	50	1 50
G W Bryant	51	10	30
G W Bryant	461	40	1 20
G W Bryant	166	600	18 00
Addison E Head	166	500	15 00
Addison E Head	167	500	15 00
J T Butterfield	168 to 171 inc	100	3 00
J T Butterfield, unissued		900	27 00
N S Knowlton	183	400	12 00
N S Knowlton	191	50	1 50
Alfred Stebbins	183	500	15 00
Robert Apple	161	250	7 50
Robert Apple	162	250	7 50

And in accordance with law, and an order of the Board of Trustees, made on the twenty fifth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of Dam & Gladding, auctioneers, No. 320 Montgomery street, on the twelfth day of January, 1869, at the hour of 1½ o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. R. SMITH, Secretary.

Office, No. 428 California street, 3d floor, San Francisco jan2

Rippan Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Curtis Palmer	148	10	$10 00
William Brown	11	5	5 00
William Brown	232	10	10 00
William Brown	233	10	10 00
William Brown	234	10	10 00
William Brown	35	10	10 00
William Brown	240	3	3 00
William Brown	276	25	25 00
William Brown	277	45	45 00
Brown & Kent	15	10	10 00
Abigail Brown	20	5	5 00
Abigail Brown	207	5	5 00
M Nolan	208	10	10 00
Daniel Davidson, endorsed to James Wilson	46	10	10 00
George Patterson	53	5	5 00
James S S Bobinson	56	10	10 00
F M Ellis	66	1	1 00
H D Scott	71	55	55 00
John Sanquet	128	15	15 00
B Curran.....not issued	272	10	10 00
B Curran.....not issued	273	10	10 00
John Bagnell	77	7	7 00
Matthew Davidson	79	12	12 00
Patrick Carroll	224	10	10 00
P M Wellin	221	5	5 00
Edward Campbell	181	10	10 00
Chas H Montague	120	25	25 00
A J Davis	127	10	10 00
Lott Mulcahy	157	5	5 00
Thomas Fay	158	5	5 00
David M Short	134	10	10 00
Chas Mayer	135	10	10 00
Benjamin C Levy	137	5	5 00
Lazard Godchaux	139	10	10 00
Lazard Godchaux	160	5	5 00
Lazard Godchaux	162	5	5 00
Lazard Godchaux	229	5	5 00
Lazard Godchaux	230	5	5 00
P Cunningham	156	5	5 00
P Cunningham	174	5	5 00
Michael English	152	25	25 00
Frank Mahon	175	25	25 00
Thos McCullough	159	10	10 00
Stephen McGilian	164	5	5 00
Stephen McGillan	165	5	5 00
P J McMahon	170	25	25 00
P J McMahon	183	25	25 00
Jas Barrett...not issued...bal	189	25	125 00
Elizabeth Curran	194	10	10 00
Elizabeth Curran	195	10	10 00
N G Briggs	269	10	10 00
F H Moore	210	20	20 00
G B Gregory	211	20	20 00
Henry Eno	212	20	20 00
Henry Eno	278	25	25 00
David Lovell	214	10	10 00
Jacob Martenstein	225	1	1 00
M O Shove	264	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Saturday, the twenty-third day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CURTIS PALMER, Secretary.

Office, No. 87 Stevenson street, between First and Second streets, San Francisco. dec24

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of November, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alphens Bull	2	218	$109 00
E B. Mott, Jr	6	150	75 00
Geo Mohrel	10	10	5 00
Geo Mohrel	11	10	5 00
Geo Mohrel	12	10	5 00
Geo Mohrel	13	5	2 50
Geo Mohrel	14	5	2 50
Silas Chase	19	10	5 00
Jas P Wheeler	30	50	25 00
Jas P Wheeler	31	50	25 00
Jas P Wheeler	32	50	25 00
Jas P Wheeler	33	50	25 00
Jno Vail	34	20	10 00
L J Flint	37	20	10 00
I L Bequa	38	50	25 00
I L Requa	39	50	25 00
I L Requa	40	50	25 00
I L Requa	41	50	25 00
J L Van Rokkelen	48	4	2 00
L A Booth	49	50	25 00
L A Booth	50	54	27 00
L A Booth	51	100	50 00
J Biggs		4	2 00
McFarland		10	8 00
Sarah Snyder		32	16 00
N M Baker		20	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. C. Merrill & Co., auctioneers, No. 204 California street, San Francisco, California, on Saturday, the second day of January, 1869, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

ENOS TAYLOR, Secretary.

Office, No. 226 Clay street, San Francisco. dec19

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the thirtieth day of January, 1869, at the same hour and place. By order of the Board of Trustees.

jan9 ENOS TAYLOR, Secretary.

BY MAIL.—The *Mining and Scientific Press* will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of the old and new location, and the paper will be sent accordingly.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the multer forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumferenee as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in coatact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

IMPORTANT TO WOOD WORKERS.

GEAR'S COMBINATION
PATENT)

Variety Molding and Planing MACHINE.

THIS STANDARD MACHINE IS INDISPENSABLE IN any establishment working Wood by machinery. Accent great improvements render it complete for

All kinds of Irregular and Straight Work

in hard or soft wood, Straight, Waved, Circular and Elliptical Moldings, Spiral Work, and all Irregular Forms, thus saving to the mechanic the cost of several machines to effect the purposes accomplished by this alone. It does not stop at cutting the edges and sides of timber, but operates equally well upon the ends, cutting them into any required form with the same facility that it does the sides. Any shop without it lacks one of the most USEFUL AND PROFITABLE TOOLS now used. It is worthy of the attention of all HOUSE, CARRIAGE, SHIP, BOAT and CAR BUILDERS, FURNITURE and CABINET MAKERS, MILL PROPRIETORS, PATTERN MAKERS, etc., and of all others who desire to make a profitable business from a small investment. Every machine is thoroughly tested at the manufactory and warranted. Further information furnished on application.

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

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ELLERY'S PATENT

India Rubber Cement and Paint

—FOR—

TIN, IRON AND METALLIC ROOFS,

Iron, Brick and Wooden Buildings,

SHIPS, STEAMBOATS, STAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

GEO. T. BROMLEY, Agent,

Battery street, corner Jackson,
24v17-3m San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13tf SAN FRANCISCO.

GLASGOW

Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

Removal.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

10v14qr

Notice to Miners,

Well-Borers and Water Companies.

M. PRAO IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

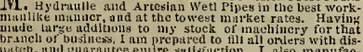
M. PRAG,

3v13-1y Stove Store, No. 1 Clay street, below Davis.

PACIFIC FILE WORKS,

No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.

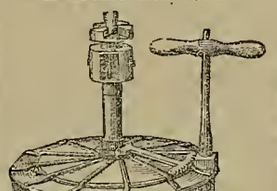


Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. BURNING & CO**

Patent for Sale.

The Best Wheel in the World!



Triumphant in every Test with all other Wheels!!

The undersigned, having successfully introduced the

Leffel American Double Turbine Water Wheel

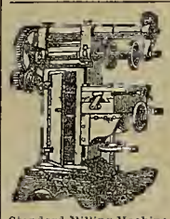
On this Coast, and owning the Patent for the whole Pacific Coast, viz: The States of California, Nevada and Oregon, and the Territories of Arizona, Washington, Idaho, and Western Montana, wishes now to dispose of the Patent, with Stock of Wheels on hand, Patterns, etc., etc.

A Company organized and prepared properly for the construction of these Wheels, to supply this Coast and all tributary countries, could make the business immensely profitable.

My object in selling is to enable me to devote myself exclusively to my profession. A. MYERS.

P. S.—If not sold previous to February 15th, then I would enter into an arrangement to manufacture by paying royalty. Address Rev. A. MYERS, Portland Oregon.

26v17-1m



Standard Milling Machine.

Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,

OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Macnines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

CALIFORNIA TOOL WORKS,

Blacksmith and Machine Shop,

HAS REMOVED

To 143 Beale St., bet. Mission and Howard,

SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Imported Tools, if too hard or soft, re tempered to give satisfaction. REAPER AND MOWING KNIVES; complete sections always on hand, or will be made at the shortest notice. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted. Prices reasonable.

21v17 qy **J. WEICHHART, Proprietor.**

IMPORTANT TO LUMBERMEN.

ANDERSON'S

Patent Muley Saw Hangings.

These Mulays will cut FIFTY PER CENT. MORE LUMBER PER DAY than any other Mulay in use, with fifty per cent. less power. They are very durable, and easily kept in order, and warranted to give satisfaction. No Mulay Mill should be without them, as they will pay for themselves in a very short time. No other mode of manufacturing Lumber can compete with the Mulay Saw with this improvement. Send for circular. FULLER & CO.,

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

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Portable Engines.

The Swamscot Co's (warranted equal to any manufactured, may be seen in use in this city), PORTABLE and STATIONARY STEAM FIRE ENGINES, STEAM PUMPS and ROTARY PUMPS, and W. OD-WORKING MACHINERY of every description, at Eastern prices. Address W. O. M. BERRY & CO., 511 California street, San Francisco.

23v17-3m

The Oakland Daily Transcript,

A BIT PAPER.

The Largest Circulation in the County.

Advertisements in the Transcript will reach every part of Alameda County.

RATES FOR ADVERTISING

VERY LOW.

The Chili Exposition.

THE UNDERSIGNED WOULD CALL THE ATTENTION of the manufacturers of California to the National Exposition to be held during the coming spring in Valparaiso, Chili, next to California, is the most important country on the Western Coast of America. And this Exposition cannot fail to create a demand for our staple manufactures, if they are well represented. The writer has resided for some years in Chili, and is familiar with its people, business and language; is a practical mechanic, and proposing to visit the Exposition, offers to take charge of machinery or other material that parties may wish to send thither, and pledges himself faithfully to bring before the public of Chili their respective merits. He can be seen daily, at his office, No. 49 Montgomery Block. Prompt action is necessary.

DAVID R. SMITH,
Civil and Mechanical Engineer.

REFERENCES—Hanscom & Co. (Etna Iron Works); A. S. Hallidie (President Mechanics' Institute); Lynch & Arnold.

San Francisco, November 21st, 1868. 34v17-tf

Scientific Churn.

Warranted to make Butter, from sweet or sour milk or cream, in from

TWO TO FIVE MINUTES.

Having sold the Patent Right of David W. Seeley's "Scientific Churn" for all of the territory west of the Rocky Mountains, except one half of Oregon, and the counties of

Monterey, Santa Cruz, Santa Clara, San Mateo, Alameda, Marin, Sonoma, Solano, Yolo, Sacramento and San Joaquin,

To McCONATHY & KINCAID,

OF PACHECO,

PARTIES WISHING TO PURCHASE

State or County Rights,

Will please apply to them.

J. N. SEELEY.

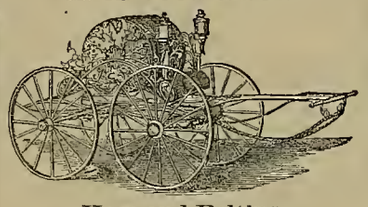
State or County Rights, or Churns, for sale by

McCONATHY & KINCAID,

PACHECO, CAL.

San Francisco, Dec. 3, 1860. 24v17-1m

M. M. COOK & SON.



Hose and Belting.

Fire, Hydraulic Hose and Leather Belting, made of the heaviest and best quality of Oak-tanned Slaughter Leather. Also, Fire Buckets, Suction Hose, etc. Our Belting is well stretched, cemented and warranted to run true, and our Hose guaranteed to give satisfaction. A large assortment always on hand and orders promptly filled. No. 801 Battery street, San Francisco. 13v16 3meow

---

Novelty and Usefulness Combined.

Wilson's Prepared Solder

Dispenses with the Soldering Iron.

It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire.

Agency for the Pacific Coast, Room No. 10, No. 423 Washington street, San Francisco. AGENTS WANTED.

Address P. O. box 17. 23v17tf

BELDUKE & CO.,

OF CONCORD, N. H.,

Long employed at the celebrated firm of Downing & Son, have opened a manufactory of

Concord Wagons,

Of all descriptions, at No. 820 and 822 Folsom street, between Fourth and Fifth streets, San Francisco.

Orders received for Buggies, Express-es, and Light and Heavy Thorough-brace. Carriage Springs made to order.

18v15-1am-6m

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern those, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

Blanks, Blank Mining Books

Constitution and By-Laws

—FOR—

Mining and Prospecting Companies

Elegantly printed, with care and dispatch, at the office of the

Mining and Scientific Press.

Orders from the interior faithfully attended to.

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to the public to warrant publication.

Mining in Idaho.

EDITORS PRESS:—I send you a few items of mining news.

DITCHING AND PLACER MINING.

Dr. Bishop, M. D. (of London,) Dr. Wagner, U. S. A., and Messrs. Thomas Rabney and J. Wilson, have commenced operations for placer mining about ten miles above this city, on a bar called "Granite Bar." They are bringing in a ditch 2½ miles long, and as the ground prospects on the under bank at 1½ cents back to the hill, gradually increasing to 12 cents to the pan, they think they have found good placers.

There is not any doubt but that eventually the bed of Boise River will be worked; but not until miners will be content with smaller pay than they now work for, and will work for $5 a day or less. The gold assays over $16 per ounce, being nearly .800 fine.

VARIETIES LODE.

The parties at work on the Varieties lode at Yuba, have lately come down here, and brought some splendid specimens of ore from that lode; the vein is reported to be rapidly widening, and the owners speak highly of their prospects. The lode is largely owned by Wm. L. Johnson, and the widow of the late L. Whittingham, Esq., and the specimen before alluded to came from their tunnel, I believe.

MILLS.

The Défrees mill is stamping away on Leonora ore, and is reported to be doing well, both mechanically and metallurgically. The Lucy Phillips Company have decided to put their mill up and mine ahead early in spring, and some ore lately taken from the "Atlanta Lodo" is so rich in ruby silver that assays shows the rich streak to be 75 per cent. silver.

YUBA DISTRICT.

A scientific mineralogist, who spent several months of last summer in Yuba, says he will venture it as his opinion, that that district will in three years, discount Owyhee; as the lodes are fully as rich as any at the latter place, and are two or three times as wide; and further, wood and water are abundant. I would not disparage Owyhee, and indeed it would be useless to attempt it; but Yuba and Owyhee together will make Southern Idaho the true "Gem of the Mountains." Our mountains are now snow-clad, but here we have only a little rain, with moderate frosts. ALTURAS.

Boise City, I. T., Dec. 22, 1868.

VELOCIPEDES.—The speed attained by the swifter kind of French velocipedes averages from twelve to thirteen miles an hour; adepts find no difficulty whatever in accomplishing fully fifty miles within five hours without once alighting from their vehicles. A couple of amateurs making a tour through a part of France challenged each other as to which could perform the greatest distance within four-and-twenty hours. One gave in after having accomplished eighty-seven miles: the other went on an additional six-and-thirty miles, making 123 miles in all. On the 21st of last September a party of nine quitted Rouen early in the morning mounted upon velocipedes, and arrived in Paris in time for dinner the same evening, having performed the distance of eighty-five miles, exclusive of stoppages, at a rate of speed averaging between ten and eleven miles an hour. The ascent of any incline greater than one foot in twenty-five is said to be impracticable. When the rider, therefore, encounters a hill of more than average steepness, he has to dismount and lead his velocipede with his hand.—*American Artisan, Nov. 25th.*

THE TELEGRAPH AND THE GOLD ROOM. Heretofore stock houses have employed boys to run to and fro to the Gold Room for the quotations. Now, however, the quotations are simultaneously made known in a hundred different offices. You go into a broker's office, and upon hearing a little noise on the wall, look up, and figures appear telling the price of gold to a fraction at that moment in the Gold Room. In five minutes more, perhaps another fractional figure will appear, indicating another variation in the price, and so on. An operator sits in the Gold Room and touches keys on a board; attached to these keys are wires connecting with the brokers' offices. The vice-president of the Gold Room invented this contrivance. It is said he is to receive $25,000 annually from the hundred offices which have introduced his invention. Its use will do away with the employment of a whole regiment of boys.—*Exchange.*

SEA WATER AS FUEL FOR MARINE ENGINES.—The following is from an article on Marine Engine Improvement in *Engineering*: "If the science of the future can ever accomplish anything for marine engineers, let its first triumphs be these: First, some mode, other than evaporation, of rapidly precipitating the saline constituents of sea water; second, some mode of greatly increasing the heat-conducting activity of the metal or metals of which steam boiler furnaces and tubes are formed. But except by a blind faith, opposed to all that is now known, we cannot hope for either consummation. Although the salt and water which together form sea water are in mechanical mixture only, it is almost as difficult to separate them as to separate the oxygen and nitrogen of the air, which also is but a mechanical, and not a chemical, compound of these gases. We might almost as well hope to decompose water, by an expenditure of power, say one half as great as that which would be derived from the combustion of the resulting hydrogen. Then should we have liquid fuel indeed—a hydrogen field covering one hundred and fifty millions of square miles, or three-fourths of the entire surface of the globe, upon which steam ships could steam everywhere, without coal or stokers. Liquefied hydrogen, from a mile to seven miles deep! Inexhaustible? were it only released from its aqueous bond it would expand into a volume immeasurably greater than that of the entire atmosphere surrounding our planet. And, if that were not enough, it is, like everything else when chemically considered, indestructible, even by combustion with oxygen, whereby it is simply recombined in water, to be again decomposed, the hydrogen again burnt, and so on, *ad infinitum*. A ton of coal, once burnt, is for ever destroyed as coal, although every atom of its chemical constituents survives in other but unavailable combinations. So let those hope who can. We see no way of attaining to this imperial possession of nature, but neither do we see the limits of human discovery."

STEAM FARMING.—When all the advantages of steam are fully understood by farmers we may expect to see it applied on thousands of farms where, thus far, it has never been seen. It will be employed to mix clay and sandy soils, assimilating the texture of hill top lands to that of those in the valleys. It will be employed to pump farm and other sewage to where it ought to be pumped for irrigation, for sheep washing, for stone breaking, and in many other ways. The worthy steam farmer will be a sort of factory owner, and engineer-in-chief, and many of his men will be mechanics, engine drivers, and stokers. The great farms will be almost in a single field, levelled, where practicable, almost like a drawing table or the back of a Shropshire ram. They will, too, like railways, have their own repair shops, and the traveler will never once be out of sight of the farming engine.—*Engineering*.

CALIFORNIA
BUSINESS UNIVERSITY
204 Montgomery Street.

Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
17v17-qy12p E. P. HEALD, San Francisco.

HENRY CAREY BAIRD,
Industrial Publisher,
No. 406 Walnut Street, Philadelphia.

HAS RECENTLY PUBLISHED

A Practical Guide for the Perfumer; being a New Treatise on Perfumery the most favorable to the Beauty without being injurious to the Health, comprising a description of the substances used in Perfumery, the Formulæ of more than one thousand Preparations, such as Cosmetics Perfumed Oils, Tooth Powders, Waters, Extracts, Tinctures, Infusions, Spirits, Vinaigres, Essential Oils, Pastels, Creams, Soaps, and many new Hygienic Products not hitherto described. Edited from Notes and Documents of Messrs. Debay, Lanet, etc., with additions by Professor H. Dussance, chemist. 12mo..... $3 00

Cabinet Maker's Album of Furniture: Comprising a Collection of Designs for the Newest and Most Elegant Styles of Furniture. Illustrated by 48 large and beautifully engraved plates. In one volume, oblong..... 5 00
The plates of this beautiful volume comprise designs for bedsteads in great variety; chests of drawers; wardrobes; dressing bureaus; tables for the chamber; work-tables; extension dining tables; card and chess tables; parlor tables, Louis XV. and other styles; office tables; chiffoniers; ladies' and other secretaries of different forms and styles; toilet tables and glasses; desks; book-cases; side-boards, etc., etc.

Gothic Album for Cabinet Makers: Comprising a Collection of Designs for Gothic Furniture. Illustrated by 23 large and beautifully engraved plates. Oblong..... $3 00
The plates in this volume comprise designs for sofas, arm and other chairs, stools, taborets, pries-dieu, tables, chests of drawers, wardrobes, chimney-pieces, side-boards, pier tables, etageres, desks, book-cases, etc.

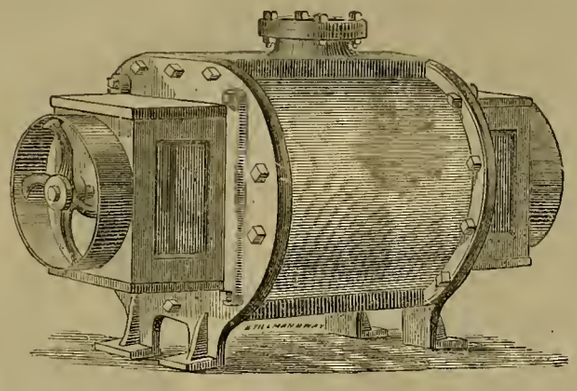
A Practical Guide for Puddling Iron and Steel.—By Ed. Urbin, Eng. of Arts and Manf. A Prize Essay read before the Association of Engineers, Graduates of the School of Mines, of Liege, Belgium, 1856-6. To which is added a Comparison of the Resisting Properties of Iron and Steel, by A. Brull. From the French, by A. A. Fesquet, Chemist and Engineer. 8vo., cloth..... $1 00

☞The above, or any of my publications, sent free of postage, at the publication prices. My new and enlarged CATALOGUE OF PRACTICAL AND SCIENTIFIC BOOKS, 56 pages, 8vo, is just ready, and will be sent free of postage to any one who will favor me with his address. 20v16tf

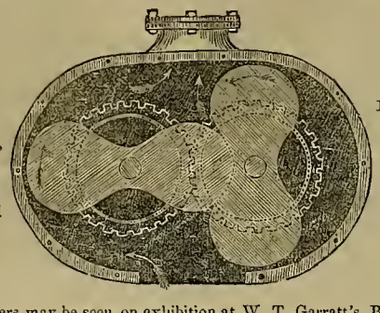
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 21, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR Smelting, Foundry, Mining and Steamships.



REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

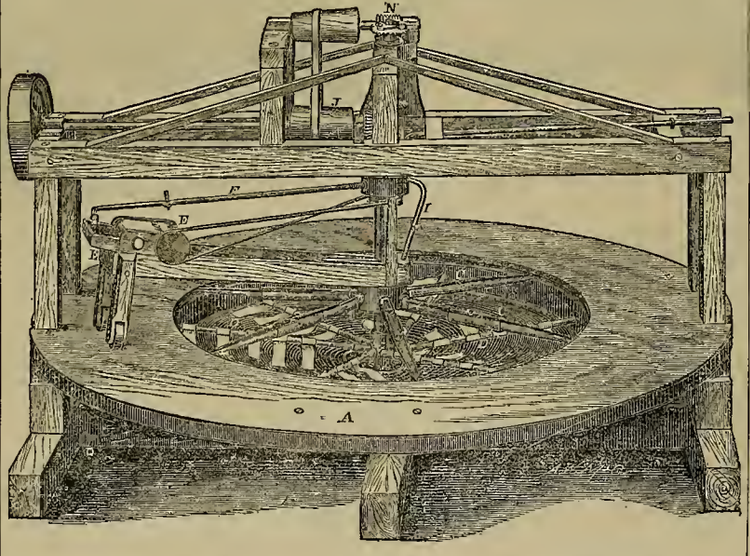
CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP & BARGION,
4v16 3m Globe Iron Works, Stockton, Cal.

PAINE & STEPHENS'
IMPROVED CONCENTRATOR,

For Saving Gold and Silver Sulphurets.



This invention, a perspective view of which is given above, consists in applying machinery to the ordinary buddle, and rendering the same automatic in action. It is calculated to do a large amount of work.

One Machine, costing about $1,400, is sufficient to work the Sands from 25 to 30 Stamps. But very little power is required.

It can be easily run by one man turning a crank. The principle on which it works is entirely dissimilar from any other machine now used on the Pacific Coast; although it is in almost universal use in Europe; but not so arranged there as to be automatic in action.

The illustration given herewith, was fully described in the Mining and Scientific Press of March 21, 1868.

One of these machines may be seen in constant operation at the Eureka (Watt's) mine in Grass Valley, where it is giving the fullest satisfaction, and is working all the tailings from thirty stamps. Another machine may be seen at the Banner mill, in Nevada, and a third below the Gould & Curry Company's mill, near Virginia City.

For further information, apply to THOMAS N. PAINE, Grass Valley, California.

PAINE, STEPHENS & HARRY.
13v16eow

Metallurgy.

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San Francisco March 6, 1865. 11v10-tf

PROF. HENRY WURTZ,
Formerly Chemical Examiner in the U. S. Patent Office, may be employed professionally as a Scientific Expert. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞Written communications preferred.

Important to Gold and Silver Miners and Companies.
PROFESSOR WURTZ,
Who is the Inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of
SODIUM AMALGAM.
All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Henburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

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ASSAYER AND WORKER OF ORES,
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HAT MANUFACTURER
And dealer in
Hats and Caps
AT WHOLESALE AND RETAIL.
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Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

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OF SAN FRANCISCO.
Cash Capital, - - - - - - - $300,000
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All Losses paid in U. S. Gold Coin.
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A WARNING
TO ALL WHO ARE AFFLICTED.

Before the rainy season comes get cured of Rheumatism and Neuralgia, by herbs only. The receipt was given some years ago by an old Indian in New Orleans, and it has never failed to cure all it says. Many have been cured in this city and in Boston, and all say it is the best they have tried. Manufactured by MRS. MARY HIGGINS, Oregon street, two doors west of Drumm. Orders sent by mail or express attended to on receipt of $3 per bottle. 22v17-3m

THE EXCELSIOR PUMP.

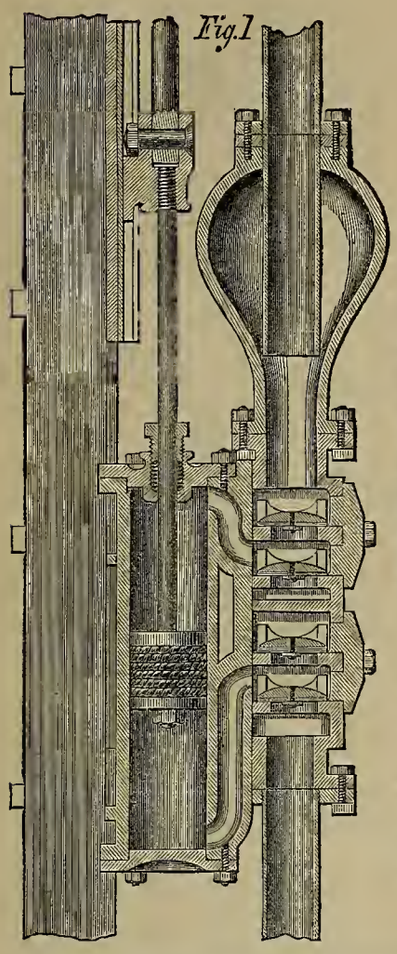
Fig. 1

THE BEST PUMP FOR MINING,
FARMING AND DOMESTIC PURPOSES.

Hooker's Patent, August 15, 1866; Jan. 15, 1867.

IMPROVED
DOUBLE-ACTING SUCTION AND FORCE PUMP.

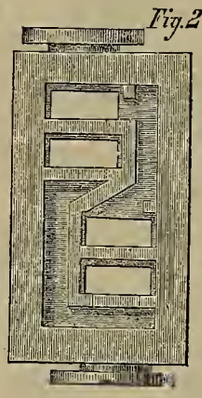
Fig. 2

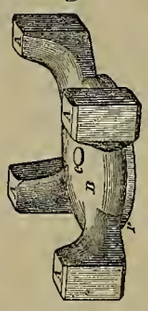
Fig. 3.

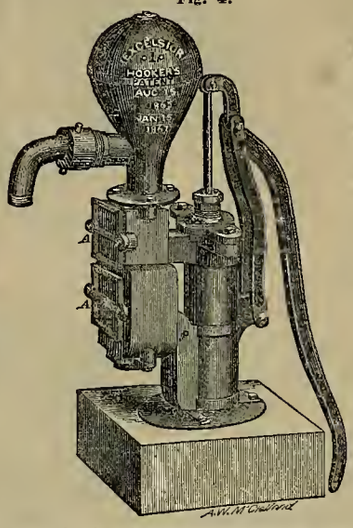
Fig. 4.

Seventeen different Styles and Sizes, suitable for all purposes, and for any kind of power.

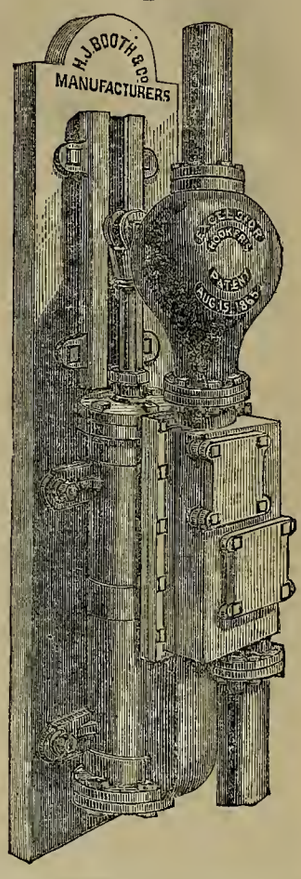

Fig. 5.

These Pumps are meeting with universal favor wherever tried, and are now being introduced, in many instances superseding Pumps which had hitherto been considered the best in the world.

Fig. 1 is a sectional view of n 6-inch Mining Pump, showing the plunger and hemp packing on the left, with the chamber on the right containing the puppet valves. Fig. 2 represents the chamber, with the water-passnges and vnlve-seats. Fig. 3 is the valve, operating in the chamber. Fig. 4 is the improved Hand Pump. Fig. 5, a 6-ineh Mining Pump, shows the adjustable bonuet opening to the valves.

For Circulars, or further particnlars, inquire of or address J. W. BRITTAN & CO. Agents, 120 Front street, San Francisco; H. J. BOOTH & CO., Uniou Iron Works, First street, San Francisco, or

CUSHING & CO., Proprietors,
San Francisco.

JOHN WRIGHT & CO.,

—DEALERS IN—

PICKS AND PICK HANDLES.

Sole Agents for Washoe Tool Company,

No. 231 Fremont st., bet. Howard and Folsom, San Francisco.

LIST OF PRICES OF PICKS:

No.	1	Round Eye surface,	4	lbs.	$16	No.	17	Drifting	4½ lbs. $18
"	2	" "	4½	"	16	"	18	"	5 " 18
"	3	" "	5	"	18	"	19	"	5½ " 20
"	4	" "	5½	"	18	"	20	"	6 " 20
"	5	" "	6	"	20	"	21	Poll	4 " 18
"	6	" "	6½	"	20	"	22	"	4½ " 18
"	7	" "	7	"	24	"	23	"	5 " 20
"	8	Flat Eye surface	4	"	16	"	24	"	5½ " 20
"	9	" "	4½	"	16	"	25	"	6 " 22
"	10	" "	5	"	18	"	26	"	6½ " 24
"	11	" "	5½	"	18	"	27	"	7 " 30
"	12	" "	6	"	20	"	28	Coal	2 " 15
"	13	" "	6½	"	20	"	29	"	2½ " 15
"	14	" "	7	"	24	"	30	"	3 " 16
"	15	Drifting	3½	"	16	"	31	"	3½ " 16
"	16	"	4	"	16				

Also PICK EYES ready for the steel, for the Blacksmiths, which will be sold cheap.

I wish to call special attention to my

NEW ADZE EYE PICK,

Which was made under my own supervision while in New York. For BEAUTY, STRENGTH and DURABILITY, they are unequaled.

JOHN WRIGHT.

We have a large stock of EXTRA NO. 1

WHITE HICKORY DRIFTING PICK HANDLES,

WHICH WE OFFER CHEAP.

CALL AND EXAMINE FOR YOURSELVES.

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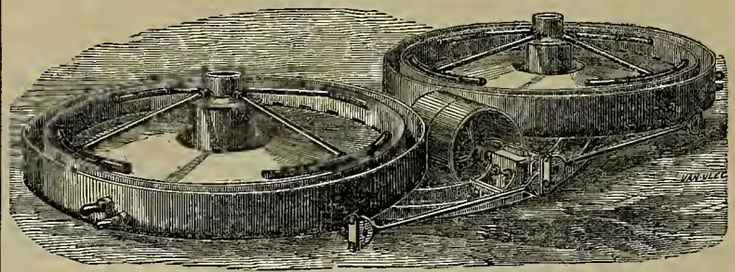
HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

San Francisco, October 19th, 1868.

Mr. M. Hungerford—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

Office of the Oneida Mining Company, Jackson, May 13th 1868

Mr. Morgan Hungerford—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

Big Oak Flat, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pnn, is described in circulars, which will he forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to he appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

In future these Pans will be manufactured by Goddard & Co., at the Pacific Iron Works, San Francisco, which is a guarantee that they will be built in the most substantial manner.

These Pans may be seen at the Pacific Iron Works, First street, near Howard, San Francisco.

Address,

GODDARD & CO., San Francisco.

Or M. HUNGERFORD, at the Pacific Iron Works.

18v17eow

MINING AND SCIENTIFIC PRESS.

Subscription, $3 Per Annum. Single Copies, 15 Cents.

A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, JANUARY 16, 1869.

VOLUME XVIII. Number 3.

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Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

No. 320.—Platinum—as near as can be judged without making an assay—in heavy, whitish steel-gray, ductile, scaly particles, intermixed with a garnet-like sand; from placer mines in Southern Oregon,—presented by Dr. Frey, of Sacramento,—who, it may be remarked in this connection, has one of the most complete mineralogical cabinets in the State, having lately added thereto by the purchase of many lithological and paleontological specimens. Platinum occurs usually in grains, but occasionally in irregular lumps, and is as heavy as gold. It is quite valuable,—next to gold,—on account of its uses in chemistry, being infusible and not attacked by any of the pure acids. Where it can be obtained plentifully, it is well worth saving. It has been found in veins along with gold. Iridium and Osmium, similar metals, are usually found with platinum; in California they are found in many places along the foothills, with the gold, but most plentifully on the lower Klamath.

No. 321.—Psilomelan, or the black silicate of manganese; with Rhodonite, the red silicate, sometimes called manganese spar, but that name is also applied to Diallogite, the carbonate of manganese, distinguishable by effervescence with warm acids. From a newly-discovered locality in Santa Clara County. Presented by W. Frank Stewart, San José.

No. 322.—Red oxide of tin, from Temescal, San Diego County. It is in large solid masses, nearly pure, being accompanied by a little manganese, iron, and quartzose gangue. Average assay of vein matter, 20 per cent. In England, many of the paying mines yield only 2½ per cent. The Temescal mines are believed to be very valuable. Presented by Capt. Wm. Williams, the Superintendent.

No. 323.—Tin ore, from Mexico, consisting of red oxide, intermixed with copper pyrites. Presented by Dr. Jones, of Murphy's, Calaveras County.

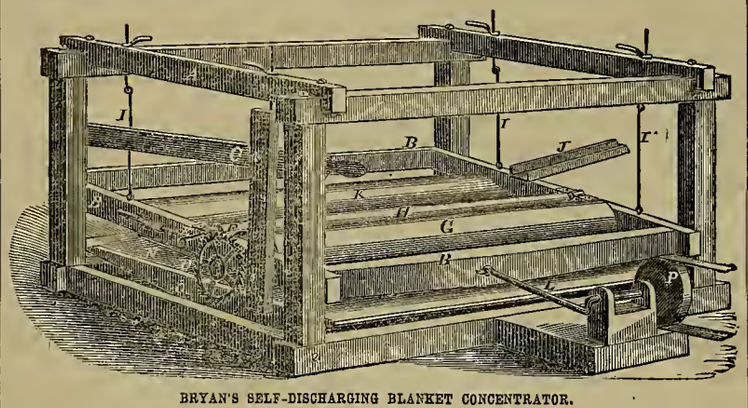
No. 324.—Specular iron ore, partly micaceous. Obtained by A. B. Butler, in Calaveras County.

No. 325.—Olmstead's paint, of the color designated as Sienna, from Olmstead's Mills, Sonoma County. Probably oxide of iron mixed with pulverized rock, or earthy matter.

Bryan's Self-Discharging Blanket Concentrator.

The utility of blankets for concentration being well established, numerous suggestions have been made to overcome the great objection which is justly urged against their common use,—that of the cost. A quarter of a mile of blankets will undoubtedly retain the pure sulphurets and amalgam very satisfactorily; but the blankets are soon decayed, and will have to be renewed. They are used, accordingly, only to a limited degree, where the ores are such as to warrant the expense incurred.

The waves of the ocean have a peculiar effect upon substances of a different specific gravity, which, attracting the attention



BRYAN'S SELF-DISCHARGING BLANKET CONCENTRATOR.

of Mr. John M. Bryan, one of the old adventurers of Gold Bluffs on the Klamath coast, led him, probably in an interval of discouragement at the perversity and scarcity of the magnetic sand of the sea which had in its black grasp so many a golden fortune, to betake himself philosophically to a study of the principles of the statics and dynamics involved. Subsequent experiments in the foot-hills—Grass Valley—led him to devote special attention the concentration of auriferous sulphurets, with a view to improving, as far as possible, upon the ordinary appliances in use. He adopted the blanket method as the best, but modified it to save costly material, by using one blanket only, in the form of an endless belt, which revolves on rollers in a frame as seen in the accompanying engraving. The idea of the shelving sea-beach, and of the succession of rolling breakers, which abides in the memory and imagination of all who have visited Gold Bluffs, never left him until it was developed into this practical application. But the operation and substantial merits of Mr. Bryan's concentrator will be best understood by reference to the engraving.

Instead of woolen blankets in this machine, two thicknesses of canvas (quilted together to prevent sagging and irregularity of surface) are used to form the endless revolving belt.

The pulp, from the stamp mill, flows down the spout J, upon the upper end of the blanket surface, which is extended like a belt between the rollers (G and K), and indented by the smaller roller H, running on the top of the blanket close to G, so as to make a kind of trough beyond H, with a shelving bottom (K). The slope of the rollers and blankets is towards the left, being adjustable to suit the ore by the screws and rods I, I, by which the entire blanket and roller arrangement swings in the wooden frame A.

Now an oscillatory motion is given to the swinging blanket frame B, B, by means of the pulley P, and rod L. This causes the pulp and accompanying water at K to ripple down along the shelving channel in little wavelets, towards the point of discharge of the tailings E. For every oscillation of the blanket frame, the pawl F catches in a new tooth on the ratchet wheel D, revolving the rollers, and so causing the blanket channel, and upper surface, to move from us, and to carry the heavy particles up the shelving slope K, and over the farther roller, into a tank underneath, N, which is filled with water to wash off the sulphurets, which are deposited in the tank. The heaviest and best quality of sulphurets will be found at the upper end of the tank under K.

We have, here, a blanket washing, combined with an operation resembling that of the Ruttinger percussion table, though the principle is not the same, this being more of shaking than of a percussion table; the motion of the heavy particles in the Rittinger table being the reverse, or towards the force of percussion, as is the case in working with a hand spoon. Mr. Bryan tested this machine in the ravine below the Banner Mine, Grass Valley, and says it will give the best results of any concentrator yet tried on the coast.

Other revolving blanket concentrators have been in use, which were invented by Mr. A. Woodside, W. A. Hedger, Smith, Hinkle, and Mosheimer, and others, which feed and empty differently, most of which do not make use of the principle of oscillation. An application has been made for a patent for this device through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Further particulars may be obtained from Mr. Bryan, Lincoln, Placer County.

WHITE PINE is still a center of attraction to speculative miners, and to the adventurous in general. Numerous capitalists have sent, and are still sending agents thither, with purposes varying according to the style of operation and character of the parties. Lawyers and go-betweens are busy, and a few valuable mines have changed hands. The bullion product is not increasing at present; the prices are high, the snow is a foot deep, the weather cold at White Pine,—but the excitement and interest continue unabated, eastward as well as westward. A town is expected to grow up there equal to Virginia City; but the permanency of the deposits or of veins in depth, is canvassed intelligently only between lawyers and experts, while actual developments underground, which should have determined the question pretty positively before this, are kept quiet, for speculative reasons. We have furnished our readers with the essential data, and repeat confidently that this is by no means the gambling question that some would make of it. The district has a set of mining regulations—a series of resolutions adopted at a miners' meeting—which allow a claim of 200 feet on the lode to each locator, and 200 feet additional for the discoverer. The claim follows the lode.

A map of White Pine District and of eastern Nevada, is shortly to appear, accompanied with published facts of interest and value to the expected stream of eastward travelers in spring.

The new stage road from Elko, 460 miles from Sacramento, on the Central Pacific Railroad, to Hamilton, was opened on the 8th inst. The distance is 125 miles, and the road a good one, lying partly through Newark and Huntington valleys, which afford abundance of water and forage. Huntington and Smith creeks flow through these valleys, and form the North Fork of the Humboldt River. We quote the list of stations on the route, at each of which fresh teams are taken:

Hamilton to Pancake Mountain	17 miles.
Newark, (site of a quartz mill)	11 "
Thomas' Station	12 "
Cold Springs	11 "
Jacob's Well, (on overland route)	9 "
Winnie Ranch	13 "
Robinson's	17 "
Smith's Creek	10 "
Sheppardstown	10 "
Elko	15 "

The miner, the carpenter, the blacksmith, the capitalist, the boarding-house keeper, and the gambler will do well for some months at White Pine; but persons of other professions will run the risk of finding no employment until the community becomes a settled one.

WE HAVE NOTICED on exhibition at Sawyer & Williams', No. 439 California street, some rare specimens of copper, gold and silver ores, from the Sance and Giantess mines, located on the Gulf side of the peninsula of Lower California, about fourteen miles from the Bay of San Bruno,—also a map of the country and drawings of the mines, both of the surface and underground workings; also the Territorial Surveyor's survey of the mines and land, comprising over sixty square miles. These mines and lands are for sale. See advertisement in another column.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Account of Famous Mines in Mexico.

BATOPILAS, Chihuahua, Mex., Oct. 24th, 1868.

EDITORS PRESS :—I left the very interesting mining place of Guadalupe y Calvo, about September 8th, and passing through a highly promising, yet almost entirely unknown country, teeming everywhere with silver lodes and prospects of gold, and finally arrived here on the 26th of the same month. Since then I have made this my headquarters, and dedicated my time exclusively to a very careful inspection of the district and its dependencies, the result of which I will now lay before you.

All along during my travels through these northwest States of the republic, I had frequently heard accounts about this ancient mining region, yet I confess I had almost invariably set them down as exaggerated and highflown illusions, such as the native population are but too apt to entertain credulous foreigners with, or partly believe in themselves.

FABULOUS REPORTS.

The reports of the fabulous masses of pure native silver which the Batopilas mines are said to have produced, seemed like fairy tales, or to float like vast silvery clouds before their imaginative visions; yet I have now become convinced that a great deal more of sober truth was covered by them, than I had been willing to give them credit for. In fact, after having seen the most of the famed mining districts of Europe, and the southern and central part of our own continent, as well as Mexico, I am convinced that I am now in a region more wonderful than any of them.

The data I have been able to gather about its former history, so far as I hold them to be reliable, are the following, partly drawn from a very valuable statistical book on the State of Chihuahua, written by Don Juan de Escudero, partly from accounts received by a gentlemen well known and respected everywhere in these States, Mr. George Le Brun, at present director of the mint in Alamos, and from other written documents and verbal communications.

BATOPILAS

is situated in the mountains near the southeastern corner of Sonora. The mines of Batopilas were discovered about 200 years ago, when it is said an Indian swimming the river during a tremendous freshet, was carried down the stream by the current and accidentally landed at a place on its left bank, where the water had carried away a large piece of rock forming one of the walls of a vein, leaving open to the sun's rays a vast mass of pure metallic silver, white almost as snow. This circumstance created the name given to it of "La Nevada," meaning the "snow white." The report of this discovery spread, and soon the hitherto quiet and unknown valley became the seat of a lively mining industry.

The town is in the heart of the "Sierra Madre," which crosses the State from N. to S., sending out rugged spurs in every direction, yet strictly speaking, forming an immense, high table land, whose altitude here attains to 8,000 or 9,000 feet above the ocean. The climate is salubrious; in greater hights, the finest any where to be met with. The average heat down in the valley, in the summer or rainy season, is not over 85°, while in winter, the thermometer hardly ever falls below 45°; snow only occasionally being seen for a few days on the most elevated mountains, while the vegetation in the valley and up to 3,000 feet above, remains green all the year round.

THE VALLEY

winds itself as a narrow rent along between tolerably steep mountains, whose greatest altitude may reach to 3,300 feet above it. Its main extension may be set down to seven miles from S. E. to N. W., with various side valleys emanating therefrom.

The vegetation consists of a variety of thorny shrubs and immense cactus of a grotesque form, the tops and north sides of the hills overgrown with oaks and forests of gigantic pines, while extended grassy slopes provide a magnificent pasture for animals.

A creek, or as it is here styled, "El Rio," runs in its rocky bed with never-failing water of the most beautiful crystal clearness, and of more than sufficient power to drive several ore mills—"hazieudas."

Along its right, or western bank, under the very shadow of the overtopping mountains, stretches itself, the

TOWN OF BATOPILAS,

built up in the old Spanish style of adobe, or sun-dried bricks; houses of one, seldom two stories in hight, with flat roofs, occupying every available place, barely leaving room for a narrow road. The population, which for a number of years after the end of the last great "bonanza" had dwindled down to a mere handful, and only slowly begun of late years to increase again by the newly started enterprises, may at this day be safely set down at between 3,000 and 4,000, drawn hither by the return of the era of a bonanza, whose wonders or extent it is utterly impossible to foretell, but which bids fair to outshine by far all the former historical ones.

THE NECESSARIES OF LIFE

are all brought in by pack mules from the towns situated on the rich plains, extending from the foot of the Sierra to the far off seashore, and vary their prices according to the result of the seasons. The chief staples of consumption are corn, sugar, beans, salt, tallow, lard, and the various classes of dry goods. A portion of the former, as also the beeves, are raised and sold by the semi-civilized Indians of the "Tarahmari" tribe, inhabiting the Sierra.

THE DISTANCE

from Batopilas to the two principal towns from which it has naturally to draw its supplies, are, to *Fuerte*, about five days' travel in the saddle, and *Alamos*, about the same, the half of which is over mountains. Thence clear down to the seacoast, a most beautiful natural wagon road leads over a slightly undulating, very fertile country. Mazatlan, from the former, and Guaymas, from the latter place, form the respective seaports, whence easy and regular steam communication with San Francisco twice a month can be had.

The distance to the city of Chihuahua, the capital of the State, is about seven days' travel in the saddle, in a northeasterly direction.

RICHES.

The riches which the various mines of the district have given in former times, can not now be accurately stated, since, by a conflagration, which destroyed the entire official documents in the year 1827, relating to the matter, were lost.

It is however known, that as a duty of 20 per cent. on the silver taken out from 1785 to 1789, and actually paid into the royal treasury at Chihuahua, the sum of 922,000 marks, or $7,376,000 were registered, showing thereby a result of production of $36,880,000; to which a reasonable amount must be added that was never entered.

A very few scattered documents only exist relating to the former condition and produce of two or three of the principal mines.

VEINS.

The number of veins which furrow this district it is impossible to calculate. I can only say that in no part of the world have I ever seen anything approaching to it. While those most known may reach the number of 100, those best known or not outcropping, will surely go far over 500, their general course being from north to south with more or less deviation.

ORES.

The ores consist principally, and in some mines entirely, of the very richest native silver, bright as it comes from the assayer's cupel, and in the most wonderful and beautiful shapes and combinations; their value ranging from the poorest, of $80 to the ton, to $20,000 and $30,000. The matrix of the lodes consist of calcspar, but very few showing quartz, as such, and these latter ones have not yet been sufficiently prospected to satisfy me as to their worth.

GEOLOGY.

The mineral country through which they run, is composed mostly of "diorite," while granite shows only in a few higher localities, and stratified rock, merely in two or three points to a limited extent. A majority of the lodes seem to concentrate in a famous hill, known as the Cerro de Animas, which alone may hold more than 300 or 400; also in the Cerra de San Antonio, and Cerro de la Descubridora.

BONANZAS.

Among these mines that in former times are known to have given great "bonanzas," are principally mentioned the Nevada, the Dolores, the Pastrana, San Antonio, Carmen, Martinez, Roncesvalles, Arbitries, Cata, Vallinas, Descubridora, San Pedro, Baltazar, and others too numerous to mention.

THE PRICES OF LABOR

in the mines average six bits for a day's work, of two blast holes of sixteen inches each, and four hits per day to the boys carrying out the rubbish from the mines, while a foreman receives from $8 to $12 per week.

THE BENEFICIATING

of the ores has hitherto exclusively been done by the *Patio Process*, the grinding being by the old fashioned Mexican *arastras*, driven by water power. Of late, however, the greatly increasing produce of the mines demands different facilities for working up their ores, and consequently several of the American companies at work here have sent off for improved machinery.

[To be continued.]

[Written for the Mining and Scientific Press.]

Facts About the Giant Powder.

EDS. PRESS :—As a matter of some interest to the owners of mines, I beg to lay before your readers the following facts connected with the use of Giant Powder in the Oakes & Reese mine, in Hunter's Valley, Mariposa County, belonging to Messrs. Robinson and McAllister.

We have used the powder entirely since last April. In its use, the steel consumed is of uniform size, ¾ inch octagon. Hammers (short handles) weighing 3½ pounds. The country rock is hard and tenacious. The veins of quartz are narrow, varying from ten inches to three feet, generally running from one foot to twenty inches in width, with little or no gouge.

The system which Mr. Cassel, superintendent of the mine has introduced, and which can only be used to advantage with Giant Powder, is to pay the miners by the foot in depth of hole drilled; the miner doing no blasting, nor does he handle any rock, his simple duty being to drill holes where instructed.

The underground superintendent or head blaster,—one for each shift,—instructs the miner where to drill a hole. When the hole is drilled to the depth required, the superintendent measures it and takes a memorandum of same, and sets the miner at work elsewhere. As soon as the hole is measured, the blaster loads it with from two to two and one-half ounces of loose powder, fills the hole with water, covers it, and leaves it until the men leave the mine at time of shift. As soon as the men have left the mine, the blaster with his fuses, with cap or exploder attached, makes his round, and removing the cover from the hole, drops the fuse into the hole, works the exploder into the powder, which is quite soft, fires the fuse, and in a few minutes will explode all the holes drilled during the working shift. As soon as the explosions are made, the rock men and skip men clean away the *debris* which may be in the way of drilling new holes, and when the men again come into the mine, there is work for them ahead, in drilling. A blast is only fired when the men are at work in the mine, when it becomes necessary to remove material. Thus it will be seen, no time is lost in blasting.

My experience since April last, leads me to know the following facts in use of Giant Powder, as against gunpowder:

First—The amount of work which can be performed in a given space, in a mine, is nearly double.

Second—The consumption of steel is about one-half.

Third—The consumption of hammers is about one-half.

Fourth—The consumption of candles is about one-half.

Fifth—The width of the drifts or stopes is only about one-half, requiring so much less material to be removed or hoisted from the mine.

Sixth—The mining timbers are of shorter lengths.

Seventh—The ore raised from the mine is broken by the force of the powder so as to require less spalling for the mill.

Eighth—The progress of the work in the mine is expedited at least 40 per cent, and in wet mines, the progress is increased fully 50 per cent., if not more.

The miners pay roll for the mine during October, was only $2,429.03; and during this time this force not only kept the 12-stamp mill busy day and night, but the yield of ore from the mine has so increased that another battery is now being erected of four stamps more,—sixteen stamps in all. These sixteen stamps could not be kept employed from the mine with common powder, short of a pay roll of $8,500 to $9,000 per month. Thus much for the use of Giant Powder for the owners of mines. Now comes the advantage to the miner.

The miner never incurs any danger from use of the powder, as we have never met with an accident in its use, and is never injured in the hands from a careless striker; and when the miner is used to this powder, and understands its peculiarities and great safety, he returns to the use of gunpowder with much reluctance. It may be as well to state here, that I never hear of any trouble caused by sickness or disease in the use of this powder in the mine.

So far as the miner is concerned, he can earn more money in using the ¾-inch steel and small hammer, than in any other way. It is true he must earn his money, and is not paid by the day. The price paid in the O. & R. mine is 37½ cents per foot of hole drilled. In October, there was drilled 6,476¾ feet of hole, costing $2,429.03. The following list will exhibit the amount earned by the miners most expert in use of single hammer drills, in October, twenty-seven working days:

P. Beical	$130.20	H. Latty	$97.36
L. Boivin	124.33	F. Gill	94 62
J. A. Wilson	131.77	J. Sastrade	90.70
B. Kendall	103.77	J. Fortuna	94.56
S. Cox	122.25	H. Boyle	91.77
S. Uran	130.74	J. Martin	90.49
B. Picard	104.58	L. Battiola	84.93

and many others, ranging below the above amounts, falling short, either because of not working full time, or from not being expert in use of single hammer. Still, any system of mining, where a miner willing to work can earn as high $131.77 per month, of twenty-seven working days, must inure to benefit of the miner, and particularly so when the mine owner is willing to pay such wages. One thing is certain, that with Giant powder and the use of small steel and hammers, the miner must earn his money, and cannot shirk his work, as is too often the case under the old system of mining.

The following are some of the localities where this powder is being used:

1—At the Oaks & Reese mine, Hunter's Valley, Mariposa County. (Property of L. L. Robinson and Hall McAllister).

2—At the Josephine and Pine Tree mines, Mariposa estate.

3—At the San Jacinto tin mines, San Bernardino County.

4—At the Zapata silver mine, Los Angeles County.

5—At the Ophir shaft, Virginia City.

6—At the San Marcial silver mine, Sonora, Mexico.

7—At the Rattlesnake quartz mine, Yuba County.

8—At the New Almaden quicksilver mine, (recently mentioned in the PRESS), and in many other localities.

It has also been used to advantage by Captain Lambert and others, for whaling purposes on the southern coast. K.

THIERRY'S WATER VELOCIPEDE, on Lake Enguien, Paris, is constructed on the principle of the twin ship tried some years ago on the Thames, the motive power being placed in the middle instead of on each side, as in ordinary paddle steamers. A pair of hollow water-tight pontoons, about twelve feet long, ten inches wide in the thickest part, tapered to a point at each end, are fastened together about twenty inches apart by transverse bars near the extremities. In the center is placed the seat, rising about two feet above the water, and paddle wheel, three feet in diameter and eight inches broad, provided with sixteen floats, the axle turning on stout iron uprights, and rotary motion being obtained from cranks worked by the feet.

Mechanical.

Belts.—Broad thin belts are better than narrower thick ones. "When bent round the circumference of a wheel the outer parts of the belt are distended, the inner parts relaxed; and supposing the section of the belt to be rectangular, the amount of force expended in making these changes is proportional directly to the breadth, to the square of the thickness, and inversely to the diameter of the wheel."

A rubber belt should become glossy upon its face by use. "As soon as it begins to glaze, you may be sure you will have no trouble with it."

"The slack side on top with large pulleys at high speed, is undoubtedly the true philosophy of transmitting power by belts."

"Belt pulleys should be made slightly convex, in a ratio of half an inch per foot of breadth."

The *hair* side,—not the *flesh* side,—of the belt, should be next the pulley. It will transmit one-third more power than if reversed. Moreover, it will run more steadily, and will not wear ont.

"A leather belt ought to have a velocity of at least 1,500 feet, and not more than 2,000 feet, per minute."

Pulleys for round belts should have a groove of V,—not U,—form.

The above notes are a part of a collection of such made from various mechanical journals, at various times, by the *Journal of the Franklin Institute.*

Bessemer's Last.—The recent improvements in the manufacture of refined iron, and of malleable iron and steel, which have been made by Mr. Bessemer, consist in injecting into molten crude iron, or re-melted pig iron, or other carburet of iron, jets of fused nitrate of soda or nitrate of potash, or other fluid substances which are capable of evolving oxygen when brought in contact with fluid iron; such substances being used alone or in conjunction with oxides, peroxides, or silicates of iron or manganese. The jets are projected downward at any angle from tuyeres, the orifices of which are above the level of the fluid iron. The iron to be operated upon may be contained in those vessels known as "converters," generally employed in the Bessemer process, or in a cylindrical chamber lined with fire-brick, or other refractory material, or in the hearth of a "finery furnace," similar to those employed in refining pig iron for puddling.

How an Axe is Made.—A correspondent of the *Scientific American* gives a description of the Collinsville (Ct.) Iron Works, from which we clip the following on axe-making: A bar of heated wrought-iron is cut up into chunks, and an eye is punched into it by the same movement; then it goes into the bitt shop, where a piece of steel is clasped and welded to the iron and drawn to the edge, then to the temperers to receive their delicate manipulation; then into the grinding shop; then to the polishing shop; then to the blacking room, where the asphaltum is put on to protect the head of the axe; then to the packing-room. And while passing through each one of these processes, the instrument is handled by a different professional inspector, and if there is a flaw, or if the temper is faulty, back it goes to the beginning.

A New Railway Brake.—At a recent meeting of the London Polytechnic Society, a newly invented brake was exhibited, which consists of a pawl taking into a rachet on the axle of one of the pairs of wheels, and which can be readily applied by the brakeman, or taken off when not wanted. It was suggested at the meeting that the action for regulating the pawl might be connected with the coupling chain, and thus be made to fall into gear when breakage happened. The brake would then be self-acting.

Wheel Molding Machine.—George L. Scott, of Manchester, Esq., at a recent meeting of the Institution of Mechanical Engineers, in Birmingham, exhibited a machine for molding toothed wheels, not only with greater accuracy than is attainable by patterns, but in unlimited variety as regards size, pitch and form of teeth. The machine is portable, cheap, and self-contained; being capable of ready application in any part of the foundry. "The whole machine,"—says the London *Artizan*,—"is carried upon a center pillar, which fits into a socket in a cast iron pedestal, sunk in the floor of the foundry below the depth required for molding, and fixed truly vertical; several of these pedestals are placed in convenient situations in the foundry floor, so that the molding machine can be employed successively upon the molding of different wheels. The center pillar of the machine carries a horizontal arm, capable of adjustment radially to suit the diameter of the wheel to be molded; and the extremity of the arm carries a vertical slide, on the bottom of which is fixed the pattern for molding the teeth of the wheel. This pattern consists of two teeth only, for molding one space only at a time, whereby absolute equality is insured in the size and shape of all the teeth in the wheel. After molding each tooth, the pattern is drawn from the sand with perfect steadiness by the vertical slide of the machine; and by means of a set of change wheels and a worm wheel keyed upon the center pillar, the radial arm is turned round through a space equal to the pitch of the teeth, and the pattern is then lowered again for molding the next tooth of the wheel. On the completion of all the teeth, the molding machine is lifted off the pedestal by the foundry crane, the cores for the arms are put in their places, and the top box put on, ready for casting; the flat surfaces of the top and bottom boxes having been already prepared, before the molding of the teeth was begun, by means of strickle boards of the required shape, working round a center pin fixed in the same pedestal which afterwards carries the center pillar of the molding machine, so as to insure strict accuracy for the whole of the work."

Chilled Cast-Iron Wheels.—*Engineering* copies several letters from railway men, all of which give the decided preference to cast-iron wheels over those of wrought iron. One of these letters, by George E. Gray,—late Chief Engineer N. Y. Central Railroad,—says that experience has demonstrated the superiority of cast iron wheels *in all particulars.* They will save more than their cost in the increased length of time for which they will wear, and they do not break. Mr. G. writes: "Trains are often run at the rate of sixty miles an hour for many miles together, and this over far worse tracks than we ever found in England or France. This company have tried the best wrought-iron wheels made in England, and have found the cast-iron the cheapest, the most durable, and equally safe."

The Mississippi Bridge.—*Engineering* describes in full, and illustrates in its usual splendid style, the noble steel-arched bridge across the Mississippi at St. Louis, designed and already commenced by Mr. James B. Eads, Chief Engineer of the Illinois and St. Louis Bridge Co. "No work at present in progress exceeds it in interest." The span of the center arch is 515 feet.

Alloys of Steel with Platinum.—These alloys, when both metals are in a state of fusion, are perfect in every proportion that has been tried. Equal parts by weight form a beautiful alloy, which takes a fine polish and does not tarnish; the color is the finest imaginable for a mirror. The specific gravity is 9·862.

The Phosphate Rocks lying near Charleston, South Carolina, are supposed to be of immense value, inasmuch as they contain the element of a valuable fertilizer. It is stated that half a million dollars have been received in Charleston since last spring from the sale of the rock, and from subscriptions to the stock of companies. Apatite and other minerals containing phosphor, are not uncommon, and are found all over the globe.

Scientific Miscellany.

Recent Astronomical Discoveries.

Mr. J. Norman Lockyer, F.R.A.S., who communicated a paper to the Royal Society some two years ago, upon the application of the spectrum analysis to the determination of the solar spots, made on Nov. 5th, certain observations, which he laid before the Royal Astronomical Society at a recent meeting,—and which are thus reported by the *Engineer:* "Upon turning the instrument to the limb of the sun, he was surprised to see, directly he looked through the eye-piece, a phenomenon which somewhat puzzled him. He saw not a long line, but a short one, which appeared to indicate a small prominence, or a loop of a large one. Yet though he swept the limb of the sun for some time, for a distance of perhaps 200,000 miles, he could find no large promiaence, but still saw the short lines. He concluded, therefore, that they came from a gaseous envelope of the sun altogether new to science. He obtained the same results in every part of the limb of the sun, except where there were prominences. Thus is indicated a new envelope five or seven or eight thousand miles in hight, extending all round the sun. There is no great difference in its thickness at the poles or at the equator. The reports from India give three lines as those most generally seen. It was the same with himself. But when the action is excessive, he sometimes saw a fourth line, near the *c* of the scale. The spectrum of the sun itself is always visible in the instrument at the same time as the spectrum of the promiuences."

The same journal gives a letter from Dr. Jausen, who was sent out to India to make observations on the eclipse of the sun, in August last, and whose attention was attracted to the same peculiar "promineaccs" referred to by Mr. Lockyer, while making these observations at Guntour. His letter is to the Minister of Public Instruction, at Paris. We quote a portion of it:

"Immediately after the totality, two magnificent protuberances made their appearance; one of them, of more than three minutes in hight, shone with a splendor which it is difficult to imagine. An analysis of its light showed me directly that it was formed by an immense columu of incandescent gas, principally composed of hydrogen. The analysis of the regions surrounding the sun, where M. Kirchhoff places the solar atmosphere, has not given me results conformable to the theory prescribed by this illustrious physicist. These results, it appears to me, should lead to a knowledge of the real constitution of the solar spectrum. But the most important result of these observations, is the discovery of a method of which the principle was conceived during the eclipse itself, and which will allow of the study of protuberances and of the regions surrounding the sun at all times, without its being necessary to have recourse to the interpositioa of an opaque body before the sun's disc. This method is founded upon the spectral properties of the light of the protuberances—light which resolves itself into a small number of very luminous pencils corresponding to the obscure rays of the solar spectrum."

The Mississippi Delta.—Sir Charles Lyell, at a recent meeting of the Geological Society of London, said that with regard to the delta of the Mississippi, the data on which he argued had considerably altered since first he wrote on the subject, inasmuch as recent calculations had doubled the estimated volume of water flowing into the sea, and thus it was capable of producing the same effect in half the previously calculated time. The progress of the delta at any spot was of necessity variable, as the position of the mouth changed. The American engineers had allowed only forty feet as the depth of the fluviatile deposits, whereas from boring Sir Charles had concluded it to be at least 500 or 600 feet. There was now reason to suppose that it was much more, possibly as much as 1,500 feet. This being the case, notwithstanding the amount of work done by the river being doubled, his calculation as to the time required for the formation of the delta might not after all be so excessive.

Solid and Liquid Fats.—Dr. Dobell, of the Royal Hospital, after remarking, in the London *Chemical News*, that there is a singular absence of precise knowledge as to the relative properties of solid and liquid fats, says: "The fatty bodies obtained from warm-blooded animals are generally solid at ordinary temperatures, whilst those from fish and from cold-blooded animals are liquid. And when we consider the high melting points of the solid fats as compared with the temperature of the body in warm-blooded animals, it is evident that the fat in them would be solid at the temperature of their blood, but for the mixture of olein, by which the melting point is reduced. Therefore the solidity or fluidity of the fat in living animals is determined by the proportion of olein which is able to be mixed with the stearia, palmitin, and margarin in each individual; and we are forced to conclude, either that it is of no importance whether the fats of the body during life are in a solid or liquid state, or that it is important at in what proportion the olein, stearia, etc., shall be combined."

Dr. Dobell closes his article by submitting to chemists, for experiment, the following questions as important in reference to the determination of the quantity and quality of food necessary for animals under different conditions:

1. What is the relative facility for oxidation of the solid and liquid fats at similar and at different temperatures?
2. Is the facility for oxidation inversely as the melting points?
3. Is it the same for all fats at their melting points?
4. After the melting point of a fat has been attained, is the facility for oxidation affected by further increments of temperature?
5. Is there a temperature at which fats cease to be oxidizable, and, if so, what relation does this bear to the melting point in each instance?

Pascal versus Newton.—About a year and a half ago, the scientific world was considerably excited by the claims of M. Chasles, in favor of Pascal as the discoverer of the law of Universal Gravitation. M. Chasles insisted, before the French Academy of Sciences, that Newton owed all his knowledge to Pascal; and produced in proof, a number of newly-discovered letters from Pascal to Newton, from the mother of Newton to Pascal, and from various other persons,—among which were some from Galileo. M. Chasles positively refused to give any information in regard to the source whence he drew these letters. They were one after the other pronounced forgeries, by a committee of investigation appointed by the Academy; and the general belief was that M. Chasles himself had been deceived.

The excitement,—says *Scientific Opinion*,—upon the subject, has already died away; but we recal the facts in order to give a statement from a recent number of the *Milan Gazette*, which is to this effect: "In examining some papers of Galileo at Florence, a letter was found addressed to a French *savant*, in which Galileo excuses himself for not having replied earlier, on the ground 'that he could not find readily at Florence any one who could translate a French letter into Italian.' From this it is clear that Galileo did not know French, and therefore could not have written the letters attributed to him."

Explosive Agents.—Prof. Wurtz says that there is something more than outside pressure which determines the manner in which different compounds explode. Nitro-glycerine, he says, belongs to a class,—of which common gunpowder is a member, but fulminates are *not* members,—which seem to require an *internal* molecular disturbance to excite explosion, and are not affected with certainty by *external* mechanical force. Their mode of explosion may be compared to an immensely rapid and intense fermentation. Prof. W. promises a paper *in extenso* upon the subject, giving some very curious experiments and observations of his own, made some years since.

Work at the Foundries.

The machinery for a number of sawmills has been occupying the Miners' Foundry to some extent. A large one for Hanson & Co., at Puget Sound, is to have a capacity of 60,000 feet a day; having a double circular saw, and a light gang or "pony" for resawing. Another sawmill for the uorth coast redwoods, is in hand, to the order of the Garcia Lumbering and Fluming Co., Garcia Creek (this side of Cape Mendocino), of which tbe capacity is to be 30,000 feet a day. Still another is for Smith & Doherty, Trinidad, Humboldt Couuty, which is also to have a capacity of 30,000 feet a day.

A 10-stamp quartz mill for White Pine is being put together for A. Staples.

Tbe new four-cylinder engine invented by Mr. Howland, (referred to in another column) is a very interesting and curiously working piece of mecbanism.

To obtain water at the Miners' Foundry an artesian well is being bored, which has attained a depth of 190 feet. It is expected that water will be met with at almost any time now, since at Hinckley's, and at Selby's sbot works, it was reached at a deptb of only 175 feet. The strata cut through were, 1st, sand; 2d, clay; 3d, another layer of sand; 4th, a stratum of clayey gravel, the stoues being very small and angular, showing little or no evidencos of water wearing.

At the Ætna Works there is being made a Hanscom jaw crusher, for the Stow Pavement Company. The object of tbis is to break up rocks to such a consistency as to answer in the place of gravel, for filling the cells, tbat being fonnd both cheaper and hetter tban gravel. Three of Varney's pans and two settlers, witb the necessary shafting and gearing, bave heen made for the San Marcial Silver Mining Co., Mexico, of which Bandmann, Neilson & Co. are the agents. A velocipede of a peculiar pattern is under way. A 30-inch Tyler turbine has been made for the Mariposa Estate, to the order of J. G. Rice, Superintendent, intended to drive one of their mills; a Scotch reaction turbine, which was found to require the whole river as motive power, being replaced by it. Quite a nnmber of Carvalbo's steam superheaters, and of Bemis grate bars for the burning of Mt. Diablo coal, are being made bere constantly, to order.

At tbe Fulton Foundry, Messrs. Hinckley & Co. are building for H. B. Tichenor & Co., the macbinery for a steamboat whicb is to run from San Pedro, the port of Los Angeles, to Wilmington, tbe terminus of the Wilmington and Los Angeles Railroad. Tbe railroad is twenty-one miles long, and is now nearly all graded, so that the road may be expected to be open soon and in operation. The engine has an 18-inch cylinder and five feet stroke. Another engine is beiug made here for Hanson & Co's new sawmill at Pnget Sound. A large double circular sawmill complete, is being made for C. F. Ellsworth, of Chico; aud another for Mr. St. Ores, Gualala, Mendocino County, whicb is to have a capacity of 18,000 feet a day. Fifty new bydrants for the city are being made, slightly different from the old ones, having two or more joints. Amongst tbe smaller johs are steam pumps for Mr. Tichenor's steamboat, a velocipede embodying original points, etc.

Mr. Brodie, tbe foreman at tbis foundry, has invented a very useful "revolving steady-rest," which will prove of great value to irou turners. Any kind of irregular piece of iron, whether corrngated, ribbed square, or three-coruered, can be fastened into this rest, and as the rest itself revolves, the ends, or a journal, crank pin or tbe like, can be turned off at ouce, and anywhere.

A Tin Concentrator bas been made in this city for the San Jacinto (Temascal) Mine, and fifteen tons of ore are on the way to be used in a trial. It is a moving blanket, on rollers, and a current of clear water is made to meet the ore,—wbich is finely pulverzed, either in a stamp mill, or revolving crusher.

New Incorporations.—Articles of incorporatiou have heen recently filed in the County Clerk's office in this city as follows:

Oneida Mining Co.—Amador County. Jan. 6th. Capital stock, $640,000; 3,200 shares, $500 each. Trustees: James Morgan, C. F. Fargo, Geo. W. Beaver. J. D. Fry and Benjamin F. Sherwood.

Vallejo Building Association.—Solano County. Jan. 6th. Capital stock, $100,000; 100 shares, $1,000 each. Trustees: Jno. B. Frisbie, Chas. Wheeler, Francis Avery, Henry W. Spencer and W. F. Rulofson.

Coney Mining Co.—Amador Connty. Jan. 6th. Capital stock, $300,000; 30,000 shares, $100 each. Trustees: H. H. Bigelow, Leonard Coney, J. W. Garhwiler, George H. Bigelow and S. Heydenfeldt.

Irish American Mutual Association. San Francisco. Dec. 30th. Directors: Edward Moran, Wm. O'Connell, John A. Ahern, A. E. Mylott, Charles O'Neil and Daniel Shehan.

Hibernia Provident Association.—San Francsico. Dec. 31st. Trnstees: J. R. Kelly, Thos. Golden, Daniel Murphy, John Kelly, James G. Malley, Thos. Finn, B. J. Shay, F. S. Wensinger, Peter Dempsey, James McNamara, James M. Sharkey, Frank Cassin, P. H. McGovern, Michael Gnerin, and James R. Deane.

Douglas S. M. Co.—Lander County, Nev. Jan. 11th. Capital stock, $320,000; Trnstees: J. L. Blaikie, E. H. Shaw, C. E. Convis, S. W. Backus and A. Meyer.

Hidden Treasure Co.—White Pine, Nev. Jan. 4th. Capital stock, $800,000; 8,000 shares, $100 each. Trustees: F. G. Smith, C. W. Fox, E. M. Hall, Hill Beachy and John A. McQuaid.

Election of Officers.—Montgomery Street Real Estate Co—Dec. 30th. President, John D. Fry; Vice-President, L. L. Treadwell; Actuary, A. Harpending; Legal Adviser, S. Heydenfeldt; Secretary, H. G. Walton; Treasurer, Bank of California.

De Soto G. & S. M. Co.—Jan. 5th. Trustees: S. Heydeufeldt, Wm. Willis, D. T. Bagley, John M. Burnett, I. Livingston, Adam Shane and T. H. Holt.

Hidden Treasure M. Co.—White Pine. Jan. 6th. President, Hill Beachey; Vice-President, F. G. Smith; Treasurer, John Sime; Secretary, Joseph L. King.

Adriatic G. & S. M. Co.—Jan. 6th. Trustees: Chas. Hirschfeld, J. L. Schroeder, James Bole, Simon Mayer and Camile Martin. President, Simon Mayer; Secretary, Panl Neumann.

San Francisco Stock and Exchange Board.—Jan. 11th. President, J. E. B. Cavallier; Vice-President, Geo. W. Smiley; Secretary, Franklin Lawton; Treasurer, Henry Schmiedell.

California Trust Co.—San Francisco, Jan. 11th. Trustees, Henry H. Haight, John Curry, Wm. H. Sharp, Jacob C. Johnson, Samuel Crim, Donald McLennon, Chas. W. Hathaway, John H. Baird, Henry Barroilhet, Moses Rosenbaum, John O. Eldridge, Chas. F. MacDermott, Henry J. Booth, Cbas. J. Deering, Walter B. Cummings, Chas. M. Plum, Henry L. Davis, Solomon Heydenfeldt, F. S. Wensiuger, Wm. Blackwood and Henry C. Lee.

California Dry Dock Co.—San Francisco. Jan. 11th. Trustees: Lloyd Tevis, Oliver Eldridge, Charles E. McLane, S. F. Butterwortb, I. Friedlander. President, Lloyd Tevis; Vice-President, S. F. Butterworth; Treasnrer, W. C. Ralston; Superintendent, James Pollock; Secretary, B. B. Miner. It was voted to increase the capital stock to $1,500,000. The Company are to build a powerful new tug for their business at the Dock.

Howard and Folsom St. Homestead. San Francisco, Jan. 11th. Trnstees: A. J. Moulder, Dr. W. F. Hale, E. B. Clement, J. W. Shaw, and J. C. Duncan.

Mechanios' Real Estate Association. San Francisco, Jan. 11th. President, Wm. Irving; Vice President, R. A. Rosco; Secretary, A. J. McClellan; Treasurer, A. J. Dunlevy.

Sierra Nevada M. Co.—Jan. 11th.—Trustees: L. F. Loveland, Wm. H. Sharp, A. Hemme, M. J. McDonald, and G. W. Beaver; Prosident, J. M. McDonald; Secretary, John Ferrie.

Gold Hill Q. M. Co. Jan. 11th.—Trustees, O. Gori, P. G. Veuard, H. W. Fortune, M. J. McDonald, and A. Hemme; President, O. Gori; Secretary, R. Wegener; Superintendeut, H. Huget.

Woodward's Gardens. — Everybody, when they want a few hours' recreation, should visit this popular place of resort. New additions are being constantly made to the already large list of novelties.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

For the Week Ending December 22d.

85,116.—Improvement in Feed Water-Heaters for Steam Generators.—D. F. McKim, of Austin, Nev:

I claim the heads *f*, constructed witb detachable covers, arranged upon the outside of the boiler, and with relatiou to the side and hottom pipes *e*, as herein shown and described.

85,144.—Improvement in Carriage Springs Auson C. Stowe, of Sau José, Cal.:

I claim tbe combination with tho supporting device consisting of bars H, links I, arms G, shafts E, and springs F, of the equalizing device consisting of arms K, rods L, and lever M, the whole being constructed and arranged substantially as here in described.

The object of tbis invention is to provide an improved carriage spring which, while being perfectly easy, shall overcome tbe great difficulty experienced when the load is placed mostly on one side; of the spring on that side having to sustain the whole weight and consequently sagging.

From near the ends of the axle bed and front cross-har, four standards arise, and each pair supports a shaft which extends across tbe widtb of tbe carriage. At tbe ends of these shafts are four coiled springs, whicb are attached to the reacbers and are coiled like a clock spring, the inner end being fastened to tbe ends of the shafts.

An arm or crank is firmly attached to each end of the shafts near the springs and support the four corners of the wagon bed or frame by means of links depending from these cranks. A cross-bar connects the central portion of the two reaches, and an arm is pivoted to its center. Two cranks or arms, one in tbe middle of each of the first described shafts are connected with the opposite ends of the central arm by connecting rods, so that the springs all act together, whether the load be placed on one portion of the carriage or another.

85,153.—Improved Machine for Crushing Rock.—Eskridge J. Wilson, of Fair Play, Cal. (Antedated Dec. 12th, 1868):

1. I claim one or more rows of stamps arranged in inclined positious, and in upper and lower guides, and acted upon hy springs in combination with an annular battery or batteries, formed with inclined step surfaces, and furnished witb a screw or screws, substantially as described.

2. In combination with circularly moving stampers working upon annular stepped surfaces. I also claim providing for feeding the rock from the center of the machine outwardly, substantially as described.

3. The arrangement of the driving mechanism, circularly-moving frame cylinder, stationary annular grooved bed witb inclined steps at tbe base of the groove or grooves, and the statiouary table E, of stationary frame A, A, substantially as and for the purpose described.

For the Week Ending December 29th.

[We shall publish, next week, the claims with notices annexed, of the following list:]

85,268.—Improvement in Breech-loading Firearms.—Salmon Belden and John F. Crabtree, of Visalia, Cal.

85,269.—Improvement in Expansion Wagon Wheels.—Salmon Belden, of Visalia, and Johnson P. Ford, of Santa Clara, Cal. (Antedated Dec. 24th, 1868.)

85,279.—Improvement in Derricks.—Angus Campbell, of Downieville, Cal.

85,371.—Improved Quicksilver Furnace and Condenser.—Thos. W. Dresser, of San Francisco, Cal.

85,398.—Cover for Pots, Kettles, etc.—Geo. Reuben, of San Francisco, Cal.

85,402.—Improved Shackle and Supporter.—Wm. Riley, of Salem, Oregon, assignor to H. Carpenter, of same place

85,409.—Improvement in Railroad Tickets and Punch for Cutting Coupons Therefrom.—Henry M. Stow, of San Francisco, Cal.

85,474.—Improvement in Farm Gates.—Albert J. Potter, of Omaha, Nebraska.

RE-ISSUES.

3,244.—Improvement in Gang Plows.—Robert Baxter, of French Camp, Cal. Patented Aug. 6th, 1867.

New Inventions.

Preserving Fresh Meat for Exportation.—The Argentine Republic has offered a premium of eight thousand dollars in gold to the inventor or introducer of the best system of preserving fresh meats in a manner adapted to their export on a large scale. This offer will remain open until May 2d, of this year. The proposals will he received by the Minister of Foreign Affairs at Buenos Ayres.

Machine for Scouring, Blacking and Finishing Leather.—The *Oregonian*, of December 26th, says:

We bave been shown a patent issued recently to F. W. Rust, A. E. Rogers and A. C. Gibbs, for scouring, blacking and finishing leatber, after it has been tanned. The machinery is constructed upon the top or over an ordinary table used by tanners, and may he set up in any shape, according to the size and construction of the building. A movable table is placed upon an ordinary tanuer's table, sufficiently large to receive a hide after it has been tanned. This table moves upon castors or movable balls set in the table legs. Thus the hide is moved about under the machinery, scoured, set, blocked and finished off in one-fifth of the time it takes to do the work hy hand, and it is claimed that much better leather is thus made than in the ordinary way. The machinery is very ingeniously constructed, but not very complicated or expensive. If it works half as well as it is claimed it will, the price of leatber will be greatly reduced; in fact, no tanner can afford to carry on business without it. We understand that the machines are to he made in this city, under the supervision of Mr. Rust, the inventor, and will be kept for sale.

Anti-Friction Bearing for Perpendicular Shafts. — Tbis hearing, patented through the agency of tbis office, is—says the Nevada *Transcript*—a new invention, and Messrs. Barnett, Purinton and Seibert are the patentees. It consists of a chamber or step, a hollow hemisphere, a die and a steel plate. Upon the face of tbis plate is a guide having three steel balls, each 1⅛ inches in diameter, and upon tbese balls a smooth plate is placed. Tbrougb the center of these plates tbe step of the shaft passes, and its weight rests upon the three balls. These and the plates upon whicb they move are made of bighly tempered steel; and tbe only bearings is npon the balls, the socket and die being intended to always make the bearing equal. The shaft makes two revolutions to one of the balls, and there appears to be no friction. The bearing is supplied witb a screw at the bottom so that the shaft may be raised witb ease. Tbe macbinery is very simple, and is pronounced a good thing hy all who bave examined it. The bearing we examined will be placed under the sbaft of the Nevada Flouring Mill on the 1st prox., and thoroughly tested.

Academy of Sciences.—At the Annnal Meeting of tbe California Academy of Sciences, held on Monday, January 7tb, the President, Dr. James Blake, who, witb others, was re-elected for the ensuing year, gave a brief review of the doings of the Academy for 1868, in which he referred to the loss of Professor Wbitney, tbe condition of the collections and finances of the Academy, the late earthquake, etc. During the past year, five sheets of transactions have been published, completing Vol. III and tbe first sheets of Vol. IV; there was also published, separately, Ritchofen's work on Igneous Rocks, and Lesquerenx's Lichens of tbe Pacific Coast. Fifty-uine new resident members were elected, and the debt has been mucb reduced.

The Hale & Norcross Miners who were imprisoned underground during Christmas time, for reasons probably best known to the stock dealers, bave been liberated, and the Virginia papers pronounce the business a farce. A small seam of clay had been struck, and it was expected, from previous experiences, that a rich deposit of ore would be revealed behind it. Uneasy holidays for the parties concerned, a harren vein beyond the clay, aud a loss of confidence by the public in the management of stock matters, are the results developed so far as heard from.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, January 16, 1869.

STOCK REVIEW FOR 1868.

The history of the several mines on the Comstock lode for the past year makes a decidedly unfavorable exhibit as compared with 1867, both as regards product, dividends and assessments; the falling off in the gross earnings for the last year having been vastly greater than was generally supposed. That this untoward result should give rise to much inquiry as to the cause thereof, as well as awaken some anxiety on the part of stockholders, is natural enough, though not by any means an event wholly unexpected on the part of experienced miners; nor should it be considered remarkable when occurring in the deeper exploitations of a vein of such magnitude. Having in our Annual Mining Review expressed the opinion that these results do not greatly militate against the probable permanence of these mines, much less fix upon them the certainty of a largely diminished future production, we shall not here repeat the facts upon which that opinion is based; suffice it to say they appear to rest on authentic data, being open to criticism and refutation if fallacious or ill-founded. It may further be observed in this connection, that the prices of the stocks representing these mining properties continue to be pretty well sustained, indicating a confidence in their continued capacity for production on the part of some, who, however much they may be mistaken, must be presumed to have examined this matter carefully and according to the best information extant upon the subject. What may certainly be supposed to contribute strongly towards keeping up this feeling of confidence is the fact that measures are about being inaugurated looking to a very great cheapening in the reduction of the ores from those mines; an object which, if early effected, would enhance their value at least twenty per cent. We allude to the project for constructing a railroad, the present winter, from Virginia City to Carson, with a branch extending to the Carson river at Empire City. The advantages to inure from the building of this road are so obvious that the prospect of its certain completion at an early day must necessarily tend to work a decided appreciation of these stocks.

Alpha, during the year 1868, reached its highest point in the month of April, when the stock sold at $120 per share, and the lowest in November, selling at $25. The assessments levied during the year amounted to $90,000—$30,000 in June and $60,000 in December. In 1867 the assessments amounted to $12,000, and in 1866 to $96 000. Work is now being vigorously prosecuted below the 940 level.

Belcher was not very active during the year under review. The stock advanced to $430 in April, being the highest for the year, and in March sold at $100, being the lowest. Four assessments were levied—in March, July, October and December—amounting to $101,000. Assessments to the sum of $71,880 were levied in 1867, and in 1866, $143,520.

Bullion was also one of the inactive stocks on the market in 1868. The lowest price obtained was in September—$8—and the highest in April—$160. Four assessments were levied—in March, May, August and December—aggregating $100,000. The stockholders of this company were taxed to the amount of $137,500 in 1867 in the shape of assessments, and in 1866, $175,000.

Crown Point was largely dealt in during the past twelve months, rising to $2,450 per foot, or $122 50 per share, being the highest price for that period, and falling to $38 per share in September—the lowest. The bullion receipts were largest in the month of April, aggregating $169,074, and smallest in December, amounting to $35,700. The bullion yield of this claim in 1868 amounted to $1,086,230, in 1867 $920,718, and in 1866, $1,312,471. Five dividends were disbursed—in May, June, July, August and September—footing up $360,000, and one assessment, amounting to $90,000, levied in the month of December. In 1867 the dividends aggregated $264,000, equal to $110 per share, and in 1866 $231,000, equal to $97 50 per share. An assessment of $60,000 was levied in 1867, and none in 1866. The known ore deposits in this mine were nearly exhausted at the close of the year. At latest dates the shaft had been carried to a depth of 1,100 feet. The drifts in the lowest levels have been greatly extended without discovering any new bodies of ore.

Confidence did not sell to a great extent during the period under review, obtaining the highest price in April, ($120) and the lowest in November, ($26). The bullion receipts are from June to December inclusive, showing a yield of $110,668. In 1867 the bullion amounted to $142,050, and in 1866, $401,934. One assessment was levied in March, amounting to $15,000; in 1867, $70,200 was asked of the stockholders, and in 1866, $33 000.

Chollar-Potosi was quite prominent in the stock arena during the year 1868, reaching $350, the highest price, in April, and selling at $120, the lowest, in November. The aggregate bullion yield in 1868 was $385,076, the largest product being in December and the smallest in February. Bullion in 1867, $2,668 885, and in 1866, $848,751. No dividends were disbursed in 1868; but in 1867 $150 per share, aggregating $420,000, was paid. One assessment of $140,000 was levied in the month of February.

Daney was generally, through the year, quiet, selling as high as $37 in March and as low as $3 in September and December. Three assessments were asked of the stockholders during the year 1868—in February, April and July—aggregating $56,000. In 1867, $44,000 was obtained in the same manner, and in 1866, $26,000. The developments have not been favorable during the period under review.

Exchequer did not occupy a very prominent place in the Stock Board, rising to $95 in April and falling to $10 ₱ share in September. One assessment was levied in January, 1868, amounting to $24,000. In 1867, $16,000 was obtained from the stockholders, and in 1866 $32,000.

Empire did not participate largely in any movement during the year 1868, reaching the highest price in April—$225, and the lowest in November—$90 ₱ share. The bullion returns for the year under review foot up $213,771; in 1867, $278,607; in 1866, $422,291. No dividends in 1868, but in 1867, $49,200—equal to $41 ₱ share—was paid out to stockholders, and in 1866, $32,400, or $27 ₱ share. No assessments were levied during the past three years.

Gould & Curry was moderately active throughout 1868, commanding the highest price in February ($212 50) and the lowest in November ($36). The bullion taken from this mine during the past year has been very small, extending from July to November, inclusive, and aggregating $29,557. In 1867 the receipts amounted to $614,621, and in 1866, $1,624,781. No dividends have been disbursed since 1866, and in that year the sum so paid out amounted to $252,000, equal to $52 50 ₱ share. One assessment, aggregating $72,000, was asked of the stockholders in December last, and one in September, 1867, amounting to $120,000. Work has been steadily prosecuted in sinking the Bonner shaft, but latterly, on account of the dangerous condition of the ground, work has been suspended in the lowest depth. It is hoped that some good results will follow the persevering efforts of this company during the present year.

Gold Hill Quartz ruled at $150 @ 48—highest in April and lowest in December. Bullion yield in 1868, $103,686, and in 1867, $106,400. One assessment, in March last, amounting to $10,000, was asked of the stockholders; dividends were paid in June and July, aggregating $7,500, and in 1867, $33,750 were disbursed in this manner.

Hale & Norcross was one of the most active stocks in the market, and in February, owing to the great strife for a controlling interest in the Board of Directors, sold at $7,160 ₱ foot, and even higher sums are reported to have been paid. It ruled lowest in November, realizing $46 ₱ share. The bullion product for 1868 aggregates $362,400; in 1867 it amounted to $1,097,297, and in 1866, $1,186,543. No dividends were disbursed in 1868; but in 1867, $440,000 was paid out to the stockholders in this manner, and in 1866, $350,000. Assessments, amounting to $200,000, were exacted from the stockholders in 1868, against one such demand in 1867, aggregating $60,000. Satisfactory results, as yet, have not been obtained in their lowest levels; however, work continues to be vigorously prosecuted.

Imperial exhibited considerable activity in 1868, selling within a range of $298 @ 86—highest in April and lowest in November. In 1868 the bullion product amounted to $684,040; in 1867, $1,406,496; in 1866, $910,387. One dividend, amounting to $24,000, was paid in June, 1868. In 1867, $380,000 was disbursed in this manner, and in 1866, $176,000. One assessment—$100,000—was levied in December, 1868. The developments in their deep workings through the Imperial-Empire shaft have not proved satisfactory, but as with the rest, the hope remains, and work is consequently unremittingly continued.

Kentuck has been one of the most successful claims, and has stood high during the entire year. The highest price obtained for this stock was in April, $500 ₱ share, and the lowest in November, $175. The bullion yield for the year foots up $1,259,767, against $1,140,742 in 1867, and $571,507 in 1866. This was the only company that paid a dividend every month during the year 1868, giving to its shareholders the aggregate sum of $480,000, against $505,000 in 1867. This narrow claim seems to be located in the very heart of the metalliferous body upon which this, the Crown Point and Yellow Jacket companies are working.

Ophir, upon the whole, has not been a very active stock during the twelve months under review, selling within a range of $23@14. Assessments to the amount of $167,000 were levied in 1868, against $184,800 in 1867, and $184,800 in 1866. From $417,472, the bullion yield in 1866, the receipts fell off to $4 108 in 1867, and a little over $3,000 in 1868.

Overman sold quite largely at $246@38, and as has generally been the case with the list of stocks in the market, obtained the highest rate in April, and the lowest in November. This company shows a bullion yield of $352,590 in 1868, against $192,318 in 1867, and $27,953 in 1866. The assessments for the past three years were as follows: three in 1868, $176,000; one in 1867, $32,000; six in 1866, $208,000.

Savage has been one of the leading stocks, and the sales have been unprecedentedly large, selling as high as $260 in February, and as low as $56 ₱ share in November. The bullion yield for 1868 aggregates $2,534,868, against $3,787,100 in 1867, and $1,814,879 in 1866. This company disbursed dividends in every month of 1868 except November, aggregating $1,184,000, against $1,400,000 in 1867, and $320,000 in 1866. The facts concerning the developments in the lower levels of this claim are kept very quiet; but they have undoubtedly not been any too satisfactory. The ore obtained from the locality known as the Potosi chimney, has been very large, exceeding all expectations.

Sierra Nevada ruled at $40 @ 10 during the year 1868. From September to the close of the year the bullion receipts aggregate $22,935. Assessments amounting to the sum of $90,000 were levied in 1868, against $36,000 in 1867, and $55,500 in 1866.

Yellow Jacket became quite active toward the close of the year, and has withal been one of the most fluctuating on the list, obtaining $666 ₱ foot in January, and $1,765 in November. We have estimated the bullion yield for the year 1868 at $800,000, having been unable from time to time to obtain any data whatever. The yield in 1867 amounted to $1,729,277, and in 1866, $2,297,133. A dividend of $360,000 was disbursed in November, 1868; in 1867, four were paid, aggregating $300,000, and in 1866 six were disbursed amounting to $390,000. An assessment of $150,000 was required in January, 1868; in 1867 $240,000 was needed for the same purpose, and in 1866, $180,000. It is reported that this company has been successful in reaching a body of good paying ore; at all events, the payment of dividends indicates a greatly increased yield of the precious metal.

Amador (Cal.) has been one of the firmest stocks on the market, and has been mostly sought by those who desire to obtain a good interest on their money, and not for speculative purposes. It sold in 1868 within a range of $325 @ 195—highest in March and lowest in October. Bullion product of 1868, $548,783. Dividends have been paid in every month of the year, aggregating $286,000.

Annexed will be found a condensed tabular statement of the foregoing extended statistics regarding the claims on the Comstock Lode, together with the aggregate figures concerning the same for the years 1867 and 1868:

Company.	Bullion.	Assessment.	Dividend.
Alpha		$90,000	
Belcher		101,000	
Bullion		100,000	
Crown Point	$1,086,230	90,000	$360,000
Confidence	110,668	15,600	
Chollar-Potosi	885,076	140,000	
Daney		56,000	
Exchequer		24,000	
Empire	213,771		
Gould & Curry	29,557	72,000	
Gold Hill Quartz	102,686	10,000	7,500
Hale & Norcross	362,400	200,000	
Imperial	684,040	100,000	24,000
Justice & Independent		52,500	
Kentuck	1,259,767		480,000
Lady Bryan	20,000	150,000	
Ophir		167,000	
Overman	352,590	176,000	
Segregated Belcher	4,371	38,400	
Savage	2,534,868		1,184,000
Sierra Nevada	22,805	90,000	
Yellow Jacket	*800,000	150,000	360,000
In 1868	$8,499,769	$1,825,500	$2,415,500
In 1867	13,628,602	1,296,250	3,251,950
In 1866	11,732,100	1,194,820	1,734,400

* Estimated.

It is estimated that seven-tenths of all adult ailments proceed from a diseased and torbid liver. The biliary secretions of the liver overflowing into the stomach, poison the entire system, and exhibit the above symptoms. After a long research, we are able to present the most remarkable cure for these horrid nightmare of diseases the world has ever produced. Within one year over six hundred and forty thousand persons have taken PLANTATION BITTERS, and not an instance of complaint has come to our knowledge. It is the most effectual tonic and agreeable stimulant, suited to all conditions of life. Inquire of your druggist in regard to it.

HAVE you tried Muller's Brazilian Pebble Spectables, undoubtedly the best in use? 205 Montgomery street.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every Issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale
Amador	Annual Meeting Jan. 18	
Amador Co., dividend, $6 per share	Payable Dec. 19, 1868	
Alpha, Storey co., Nev., Dec. 9, $10	Jan. 5	Jan. 25
Alamo, Lyon co., Nev., Nov. 25, 50c	Dec. 31	Jan. 30*
Adriatic, Storey co	Special Meeting, Jan. 28	
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Belcher, Storey co. Nev., Dec. 31, $25	Jan. 30	March 2
Crown Point, Storey co., Dec. 18, $7 50	Jan. 24	Feb. 15
Chalk Mountain, Nevada co., Jan. 18, $2	Feb 15	March 8*
Cherokee Flat, Butte co., Dec. 9, $5	Jan. 11	Jan. 26
Chollar Potosi, div., $15	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12 1864	
Cosmopolitan Water Co., Sacramento, Dec. 12, $1	Jan 15	Feb. 4
City R. R., San Francisco, Jan. 6, $5	Feb. 10	March 6
Daney, Lyon co., Nev., Jan 9, $2	Feb. 12	March 1
Diamond cop., Del Norte co., Oct. 28, $2	Nov. 10	Jan. 2*
Eureka, div., $5	Payable Nov. 21, 1868	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Gold Hill Cons., Storey co., Jan. 8, $4	Feb. 13	March 1
Gould & Curry, Storey co., Nev., Dec. 5, $15	Jan. 9	Jan. 29
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 15, 1868	
Golden Rule, Tuolumne co., div 50	Payable Dec. 28*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 11	Jan. 25*
Humboldt Canal co	Special Meeting Jan. 27	
Hope Gravel, Nevada co, Jan. 11, $1	Feb. 15	March 8
Hale & Norcross, Storey co., Dec. 12, $5	Jan. 16	Feb 6
Hale & Norcross, div. $125	Sept. 16, 1867	
Imperial, Storey co., Dec. 15, $25	Jan. 18	Feb. 4
Imperial, Storey co., Nev., div	Payable June 20, 1868	
Juan Bautista, Santa Clara co., Nov. 27	Sale Jan. 30	
Julia, Storey co., Nev., $2.50	Jan. 10	Feb. 27
Keystone, Con-olidated	Special Meeting, Feb 13	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Mohawk & Montreal, Nevada co., Dec. 7, $3	Jan 25	Feb 9
Morning Star, Alpine co., Dec. 9, $2 50	Jan. 11	Feb. 1
North Amer. Wood P. Co., Jan. 15, $1	Feb 18	March 8*
North Star, dividend, $5	Payable Aug. 15, 1868	
Oriental, Sierra co., Jan. 4, $2.50	Feb. 5	March 6
Peninsula, Storey co., Dec. 15, $10	Feb. 11	March 6
Pacific Unassessable, div	Payable June 18, 1868	
Rattlesnake, Yuba co., Dec. 19, $7.50	Jan. 21	Feb. 8*
Rippon, Alpine co., Oct. 15, $1	Sale Jan. 23*	
Rising Star, Idaho, Nov. 16, $10	January 4	Jan 30
San Juan Bautesta, Santa Clara co	Sale Jan. 30	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
S. F. & Castle Dome, Arizona, Nov. 25, 3c	Dec. 28	Jan. 29*
Savage, Virginia, Nev., dividend, $4	Payable Dec. 12, 1868	
Sand Spring Salt, dividend $1	Payable Jan. 5, 1869	
Tallulah, Humboldt co., Dec. 14, $17.50	Jan. 29	Feb. 27
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15	Jan. 30*
Virginia & G. H Water Co., Dividend, payable Nov. 20, 1868		
Yellow Jacket, div., $100	Payable Jan 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, January 15, 1869.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 83	83½
United States Bonds, 5 20s, 1864	81	82
United States Bonds, 5 20s, 1862	82	82½
Legal Tender Notes	73½	74
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	87½	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	24	—
Sacramento County Bonds, 6s	65	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	81½	—
Spring Valley Water Co	65½	67
State Telegraph Co	25	—
Gas Companies.		
San Francisco Gas Co	80	81
Sacramento Gas Co	—	75½
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Contra Costa Railroad	70½	—
Central Railroad	49	52
North Beach and Mission Railroad	67½	70
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	126	127
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1390	1400
Union Insurance Co	32	33
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
Mining Stocks—Washoe District.		
Alpha	56	56½
Baltimore American	—	—
Belcher	162	163
Bullion, G. H	30	33
Crown Point	53	54½
Eagle (?)	9	12
Confidence	35	36
Consolidated Virginia	8	11
Chollar-Potosi	165	166
Daney	2½	3
Exchequer	26	30
Empire Mill and Mining Co	120	125
Gould & Curry	100	102
Gold Hill Quartz	60	70
Hale & Norcross	—	—
Imperial	126	127
Julia	—	4
Justice and Independent	4	5
Kentuck	220	223
Lady Bryan	16	17
North American	10	10½
Ophir	35	35
Overman	78	78½
Segregated Belcher	8½	8½
Savage	76	77
Sierra Nevada	28	30
Yellow Jacket	1390	1400
Union	—	—
United States	—	—
Miscellaneous Mining Stocks.		
Amador (California)	240	242½
North Star (California)	—	—
Eureka (California)	200	225
De Soto (Humboldt)	—	2
Golden Rule, California	12	13

San Francisco Market Rates.

Wholesale Prices.

Friday, January 15, 1869.

Flour, Extra, ₱ bbl	$5 25	@$5 75
Do. Superfine	4 25	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 80	@ 1 85
Oats, ₱ 100 lbs	2 00	@ 2 25
Barley, ₱ 100 lbs	2 05	@ 2 50
Beans, ₱ 100 lbs	4 50	@ 5 50
Potatoes, ₱ 100 lbs	75	@ 1 00
Hay, ₱ ton	14 00	@20 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	—	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	7	@ 8
Groceries, etc.		
Sugar, crushed, ₱ lb	17	@ 17½
Do. China	10	@ 12½
Coffee, Costa Rica, ₱ lb	18	@ 18½
Do. Rio	—	@ 17½
Tea, Japan, ₱ lb	75	@ 90
Do Green	80	@ 1 25
Hawaiian Rice, ₱ lb	9	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 50
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	40	@ 50
Isthmus Butter, ₱ lb	35	@ 42
Cheese, California, ₱ lb	15	@ 20
Eggs, ₱ dozen	40	@ 50
Lard, ₱ lb	12	@ 13
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	6	@ 8

New York Metal Market.

[Corrected weekly from the American Artisan.]

New York City, Dec. 26, 1868.

Iron.		
Pig, Scotch, No. 1 (cash) ₱ ton	$42 50	@$45 00
do. American, No. 1 (cash)	41 00	@ 43 00
do. do. No 2	37 00	@ 38 50
Swedish, ordinary sizes	155 00	@165 00
Common	90 00	@ 95 00
Refined	100 00	@120 00
Rods	105 00	@165 00
Horse-shoe	125 00	@ — —
Hoop	135 00	@140 00
Scroll	135 00	@175 00
Nail rods, ₱ lb	—	9¼@ — 10
Spring	—	10 @ — —
Tire	—	10¾@ — —
Steel.		
Bars, best cast, warranted, ₱ lb	—	25 @ — —
Sheet, do	—	23 @ — —
do. second quality	—	20 @ — —
do. third quality	—	17 @ — —
Saw-plates, circular	—	30 @ — —
Double-shear, warranted	—	23 @ — —
Single do	—	20 @ — —
Montague & Co. (cast bars)	—	19 @ — —
Machinery, round	—	16 @ — —
German, best	—	16 @ — —
do. goat	—	11½@ — —
do. eagle	—	13 @ — —
Bilsier, warranted	—	17 @ — —
do. common	—	19 @ — —
Jessop & Sons', common	—	17 @ — —
Double refined	—	26½@ — —
Stone-axe shapes	—	26½@ — —
Tin.		
Tin plate, prime charcoal, per box	9 00	@ 15 75
Banca, ₱ lb	—	40 @ — 41
Straits	—	37 @ — 38
English	—	37 @ — 38
Copper.		
Sheathing, ₱ lb	—	31 @ — 32
Sheet	—	36 @ — —
Bottoms	—	28 @ — 40
Lead.		
American, ₱ 100 lbs	9 50	@ 9 75
German	10 00	@ — —
Bar	10 00	@ 10 25
Pipe and Sheet	10 50	@ 11 00

Returned.—Dr. J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

Save Your Teeth.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

PAIN KILLER.

No article ever attained to such unbounded popularity.—*Salem Observer.*

An article of great merit and virtue.—*Cinn. Nonpareil.*

We can hear testimony to the efficacy of the Pain Killer. We have seen its magic effects in soothing the severest pain, and know it to be a good article.—*Cincinnati Dispatch.*

A speedy cure for pain—no family should be without it.—*Montreal Transcript.*

Nothing has yet surpassed the Pain Killer, which is the most valuable family medicine now in use.—*Texas. Organ.*

It has real merit; as a means of removing pain, no medicine has acquired a reputation equal to Perry Davis' Pain Killer.—*Newport (Ky.) Daily News.*

It is really a valuable medicine—it is used by many physicians.—*Boston Traveller.* 26v17-1m

HENRY CAREY BAIRD,
Industrial Publisher,

No. 406 Walnut Street, Philadelphia.

HAS RECENTLY PUBLISHED

A Practical Guide for the Perfumer; Being a New Treatise on Perfumery the most favorable to the Beauty without being injurious to the Health, comprising a description of the substances used in Perfumery, the Formulæ of more than one thousand Preparations, such as Cosmetics Perfumed Oils, Tooth Powders, Waters, Extracts, Tinctures, Infusions, Spirits, Vinaigres, Essential Oils, Pastels, Creams, Soaps, and many new Hygienic Products not hitherto described. Edited from Notes and Documents of Messrs. Debay, Lunel, etc., with additions by Professor H. Dussauce, Chemist. 12mo. $3 00

Cabinet Maker's Album of Furniture; Comprising a Collection of Designs for the Newest and Most Elegant Styles of Furniture. Illustrated by 48 large and beautifully engraved plates. In one volume, oblong. 5 00

The plates of this beautiful volume comprise designs for bedsteads in great variety; chests of drawers; wardrobes; dressing bureaus; tables for the chamber; work-tables; extension dining tables; card and chess tables; parlor tables, Louis XV. and other styles; office tables; chiffoniers; ladies' and other secretaries of different forms and styles; toilet tables and glasses; desks; book-cases; sideboards, etc., etc.

Gothic Album for Cabinet Makers: Comprising a Collection of Designs for Gothic Furniture. Illustrated by 23 large and beautifully engraved plates. Oblong. $3 00

The plates in this volume comprise designs for sofas, arm and other chairs, stools, taborets, prie-dieu, tables, chests of drawers, wardrobes, chimney-pieces, side-boards, pier tables, etageres, desks, book-cases, etc.

A Practical Guide for Puddling Iron and Steel.—By Ed. Urbin, Eng. of Arts and Manuf. A Prize Essay read before the Association of Engs. Graduates of the School of Mines, of Liege, Belgium, 1865-6. To which is added a Comparison of the Resisting Properties of Iron and Steel, by A. Brull. From the French, by A. A. Fesquet, Chemist and Engineer. 8vo., cloth. $1 00

☞ The above, or any of my publications, sent free of postage, at the publication prices. My new and enlarged CATALOGUE OF PRACTICAL AND SCIENTIFIC BOOKS, 56 pages, 8vo. is just ready, and will be sent free of postage to any one who will favor me with his address. 20v16tf

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Markleeville *Miner*, Jan. 2d: The roads between Diamond Hill and Woodferd's are in snch a condition as to prevent the transportation of Morning Star ore down and lumher back. The consequence is, the Pioneer mill lies idle for want of ore, and the progress of the flume for the M. C. mill is delayed.

AMADOR COUNTY.

Jackson *Ledger*, Jau. 9th: The mining property heretofore known as the Coney & Bigelow mill and mine, has passed into the hands of a stock company, and incorporated, with a capital of $300,000, divided into shares of $100 eacb. We learn that the company will immediately commence sinking a new sbaft south of the present one, whicb will afford them greater facilities for working the mine.

FRESNO COUNTY.

Mariposa *Mail*, Jan. 8th: Hughes & Keyes, of Stockton, reccived, one day last week, at their warehouse, 10,000 lbs. of copper matt from the Buchanan mine, Fresno County.

MARIPOSA COUNTY.

Gazette, Jan. 8th: The work at the celebrated Hite's Cove mine have heen suspended temporarily, hut, we are informed, will be resumed again in a short period.

NEVADA COUNTY.

Transcript, Jan. 5th: The miners throughout the county now have an abundance of water for mining purposes, and the hydraulic claims are all being worked. The present supply of water will he sufficient for two or three weeks.

A correspondent writing from Relief Hill, gives the following items: Our mines are paying. The claims formerly owned by the North Star Co. are now being worked by the Water Co. Their ground looks well. The What Cheer Co. cleaned up lately, and I was told that their claims pay well. The Waukesha, or Welsh Co., have extended their main tunnel north across the channel 100 feet, and west 150 feet, to the Eagle Co's lines. The channel proves to be both extensive and rich.

The Eagle Co. are extending their tunnel, and will get to washing sometime during the summer.

The Union Co's last clean up was $4,000, of which the company cleared half. They are running a drifting tunnel on a portion of their ground. It prospects well.

Jan. 7th: The Boston Co. at Woolsey's Flat, are negotiating for the sale of their claims to a Chinese Co. at $16,000.

There is a prospect that some of the mines in the vicinity of Orleans Flat will pay well again. Wm. Obermau is making arrangements to open an extensive set of diggings at this place.

In the last two or three years a considerable amount of capital has been invested by Chinese companies in the mines of this county. The St. Lawreuce claim at Moore's Flat was recently sold to the Wo Sing Co. for $7,000, and the Piute claim at the same place was sold to the Wah Yea Co. for $2,000. Both companies are at work and will doubtless do well.

Jan. 8th: J. B. Brown & Co. have located 1,500 feet on Sailor Ravine, below Bowen's reservoir, for mining and fluming purposes.

The new hoisting works of the Pittsburg Mining Co., started up for permanent work yesterday.

Jan. 9th: Atwater & Knotwell are running a prospect tunnel into the Blue Coat diggings at Woolsey's Flat. This ground is on the same range with the I. X. L. Co., and extends to Bloody Run. Robert H. Barton & Co. have located 300 feet on a lead near the junction of Wood's Ravine and Deer Creek, adjoining tbe claims of Leathe & Co.

Atwater & Knotwell have a claim at Moore's Flat 800 feet in width, and more than a mile long. Last fall they made a run which cost them not less than $3,000, and they took out $11,000. A part of the dirt had to be raised by hand derricks.

The *Gazette* says: The Americau Co., at Manzanita Hill, cleaned up only a portion of their sluice last week, of eight days' run, and realized $14,000. Miners up and down the ridge are husy as bees, and doing well. The Buckeye Mining Co. purchased of Stephen Spencer, recently, a portion of Sweetland Creek, paying for the same $20,000.

Grass Valley *National*, Jan. 4th: The proprietors of the Grass Valley ledge situated on Wolf Creek, near Hill's ranch, propose to erect boisting works and put in a 6-inch pump immediately. The compauy own 1,700 feet, and are down ahout 50 ft. on the ledge. The rock looks well and shows gold in abundance.

Grass Valley *Union*, Jan. 8th: The Shanghai mine, on Massachnsetts Hill, continues to give out rock which pays from $70 to $90 per ton. The Grant mine, situated near Forest Springs, coutinues to pay well, the rock crnshing, independently of snlphnrets, in the neighhorhood of $50 per ton. The Howard Hill mine is paying at the rate of $25 per ton, with ground easily and cheaply worked. The Higgins & Larimer ledge is showing good rock, and the mill to crush it is rapidly approaching completion. The Seven-Thirty mine and the Bowery, on the beadwaters of Sqnirrel Creek, are both proving themselves very rich. We anticipate a lively and successful season in mining at Grass Valley duriug next summer.

Transcript, Jan. 10th: Frank Bixler & Co. located 1,500 feet on the southern extension of the Grass Valley Co's quartz ledge, and have called themselves the Yonng Pine Co.

Grass Valley *Union*, Jan. 10th: In the Roannaise mine, west of the Eureka Co's ground, some splendid rock has been taken out of late. The company owning the Roannaise, we hear are making arrangements for its early working with every prospect of great success.

Grass Valley *National*, Jan. 11th: The Garden City ledge, on Mill street, thns far sbows favorable prospects. The ledge is well defined, is from a foot to 18 inches in width, aud the rock is rich in free gold and snlphurets. Steam-power machinery for hoisting and pumping is to be erected this week.

Frank Morse, on the Higgins & Larrimer ledge has a splendid show in the hottom of the shaft he is sinking. The ledge there is abont three feet wide, and the rock will pay as high as $75 to the ton. The stormy weather will delay the starting up of the mill for several days.

The Howard Hill Co. have splendid rock at their 200-foot level. Some specimens brought into Peter Johnson's, yesterday, shows exceedingly rich in free gold, and heavy sulpburets. They have ahout 150 tons of splendid looking qnartz on top of the ground, but the mill is out of wood, and not able just now to crnsb.

A miners' meeting was held on last Saturday night in this place, to take some action in relation to parties claiming mineral land as agricultural. Resolutions were passed to raise immediately a subscription with which to assist the miners of Green Valley, to emyloy counsel to argue the case now pending in the Supreme Court of California; and also to aid and assist miners throughout the State to maintain their rights against all persons seeking to hold mineral lands as agricultural.

EXCELSIOR.—*Transcript*, Jan. 7th: A correspondent writing from Meadow Lake, says the snow on the 28th of December was from 18 inches to two feet deep, and it commenced storming at that time, continuing without intermission until the morning of the 3d inst. The snow was then six feet deep on a level, and in some places was piled np over 12 feet.

Jan. 8th: The Mohawk & Moutreal Mining Co., Meadow Lake, are engaged in running a tunnel from the level of the mill, which will tap the ledge 460 feet below the surface. The company also intend to put up concentrators in the mill, and build furnaces for working the ore by the chlorination process.

PLACER COUNTY.

Auburn *Herald*, Jan. 9th, From the Forest Hill Divide, we learn tbat the snow has gone off with a rain, and that the ditches are all full, tbe miners are abundantly supplied witb water, and good times generally about to commence in that section of the county.

We were shown some remarkable rich rock and specimens which was taken from the Green Emigrant claim a few days ago,

PLUMAS COUNTY.

Quincy *National*, Jan. 2d: The Taylorville correspondent writes: Work is being pnshed vigorously ou at the Enterprise. I understand that Mr. Chapman has started his blast furnace in Coppertown, Genesee, again, and is hard at work smelting copper.

SIERRA COUNTY.

Downieville *Messenger*, Jan. 2d: The Gibsonville correspondent writes: Mr. Redding, of Forest City, has lately purchased an interest in the Chalcedony claims. The Youug America and Miller & Co. have fitted up their claims for hydraulicing as soon as water comes. Mr. Sqnire, of the Second Ravine claims, has added a water-power derrick to them. The Union is running a dry weather complement of hands, but need water to clear their yard. They wasb enough each week to pay expenses. The New Glasgow, after many discouragements, report progress, and hopes of better success. The Nip and Tuck are finely fitted np, and have out a large pile of dirt. They are working about 25 hands, and ueed water for cleaning their yard. These are new claims, and have yet to make their first washing of any extent. They are reported as prospecting finely; aud I saw a prospect yesterday, of not over a dollar, in several pieces, picked ont of a lump of dirt not larger thau one's fist. The Nevada have their yard full, and have had to discharge their hands until the water comes.

The Swift Sure claims, that have heen in a sickly state for sometime past, are reported as convalescent; more gravel and a fine prospect having been struek in them. The Redding, Phœnix, and North American, at Hepsidam, are in an active state, with fine gravel. The Talipat claims, hereabouts, show no sign of yielding ore. Work has been suspended, and doubts are entertained about reaching a chaunel within a reasonable time, if at all.

The new qnartz mill at the Independence mine was started on Monday of this week.

La Porte *Union*, Jan. 2d: The Port Wine correspondent writes: The mining companies managed to wash a little of the dirt in their dump sheds during the rain storms. Unfortunately, when the storm abated, there was a severe freeze which dried up the streams very suddenly; we are in hopes, however, of having another storm which will give all the companies water enough to finish washing their dirt. The Union Co. is again idle, owing to a break in the water wheel.

YUBA COUNTY.

Marysville *Appeal*, Jan. 10th: The Pennsylvania mine and machinery have been undergoing repairs the past week. The boilers have been reconstructed, the track of the incline relaid, and the incline retimbered. The superintendent is now ready to commence taking out rock and go to crushing. The prospects of the mine are said to he flattering.

COLORADO.

Georgetown *Miner*, Dec. 17th: John R. Beverly started his new 12-stamp mill in Nevada yesterday....Huependen, Wolters & Co. have taken out and shipped, since Nov. 23d, $4,454.65 in silver, coin value.... Schrimer & Bruckner took off on Saturday last, 164 lbs. troy of silver bullfou, coin valne, $2,646.80. The amount of ore reduced was seven tons from different lodes, the result being $379.54 coin per ton.... Prof. Stewart has taken out during the mouth of Novemher, 2,315 ozs. of silver bullion, coin valne, $2,611.58.

Central City *Herald*, Dec. 16th: The Douglass 20-stamp mill which has been running on the Union Co's claims, on the Bates lode, has been shut down....Ed. Moores has leased Mr. Tierney's claims on the Hope lode, and is running the discovery shaft on the same, night and day. At a depth of 55 ft. the walls are very solid, and the ore veiu is widening out with every indication of very soon forming into a good sized vein of pay material. The ore will be crushed in Nesmith's new stamp mill. ....Mr. Ball, of New York City, is erecting at Black Hawk, the necessary apparatus for a new process—an invention of his own—in the Hartley mill building, just above the Manhattan Co's mill. It consists of a crusher, desulphurizer, and amalgamator.

The new mill of the Smith & Parmelee G. M. Co. is being rapidly completed.... Robert Teats is making 600 ozs. of silver per day from unselected ore. His mine is looking better than ever before....Marshall & Terry are fitting up the Chicago Co's 20-stamp mill. on North Clear Ceeek. It will be run on custom ore....Miley & Abbe are preparing to erect a 30-stamp water mill on North Clear Creek, below the mouth of Missouri Gulch....Woodbnry & Co. are running their 23-stamp mill on ore from the Barronghs lode, Nevada district, and on ore from the Illinois lode, Qnartz Hill.... Prospecting in Slaughter House Gulch is being vigorously prosecuted. While at Black Hawk last evening we were shown a very nice appearing quality of sulphurets, from a recent discovery in that vicinity.... We saw four silver bricks at the First National Bank to-day, weighing, together, 1,316½ ozs., from Robert Teats, of the California Reduction Works.

The Georgetown correspondent writes: The drift on the Mendota lode is now about 70 ft. in lengtb, and has exposed a fine body of ore, yielding not far from $120.

The Snow Drift is prodncing some very rich ore. Prof. Bowman struck a big thing some 500 ft. east of this lode from which specimens were obtained, assaying as high as $5,000 per ton. It has since been proved to be on the Snow Drift.

Central City *Register*, Dec. 12th: Samuel Lathrop is developing a splendid silver vein in Silver Gulch.

The old Pat Casy mill in Chase Gulch, is as husy crushing ore, as it used to be six years ago.

J. L. Schellinger is raising some fine and very rich ore from the De Cordova lode, and there appears to be plenty of it. The shaft is 75 ft. deep, and in the bottom the pay veiu is fully two ft. in width. The ore is mixed iron and copper pyrites, much of the latter heing the Peacock ore, and exceedingly rich.

Mr. Teats informs us that his mine on the Gilpin County lode has been opening ont better than ever during the past few days. In one place he has fully three ft. of rich pay ore. He has also been taking some exceedingly rich ore from the Coaley lode—sulphurets, thickly studded with native silver. His mill is turning out its regular 500 ozs. per day.

IDAHO.

Silver City *Tidal Wave*, Dec. 29th: During a recent visit to the Owybee mill we examined the pile of Golden Chariot rock on the dump. We found from 45 to 50 tons of ore, in every piece of which, so far as we broke or examined it, both gold and silver were plainly visible. We brought away a specimen which is perhaps a little better than an average sample that would create a panic should it be shown as a White Pine production. Washoe never saw such a pile of rock, and their $500 or $600 ore at White Pine sinks into insignificance in comparison. They have crushed about 100 tons in the Owyhee, which is still running on the same rich ore, and have partially cleaned up once or twice, hut have not retorted as yet.

We saw several loads of Poorman rock recently that reminded us of former times. The mine is yielding a superior quality of ore just now and the miners represent it as being abundant.

The Woodstock still turns out rich rock and plenty of it.

The Pickens & Edwards has commonced sending ore to Black's mill in Flint.

The Ida Elmore mill is making a splendid run on superior ore.

Jan. 5th: The first bricks were run in the Rising Star mill on New Year's day. They were three in number and weighed in the aggregate 160 lbs. avoirdupois.

The prospects at Willow Creek are very good for moderate surface diggings.

Owyhee *Avalanche*, Jan. 2d: Forty tons a day of the almost fabulously rich ore of the Ida Elmore mine is now being crushed at the company's mill. The mine presents a better appearance now than it has at any time since its discovery.

We were recently shown specimens from the Pick & Porter ledge, which cannot be excelled anywhere. It is exceedingly rich in sulphurets and literally speckled with pure, unalloyed gold. The streak which bears this character of ore is about six in. wide. The ledge averages over 18 in. in width and growing wider as the tunnel progresses, which is now driven in on the lode a distance of 75 ft.

Tierney & Co. are sinking a shaft on the third south extension of the Oro Fino; it is down 40 ft.; the ledge is well defined, and at that depth exhibits a width of 15 inches of exceedingly rich ore—native gold being plainly visible in a great portion of it.

The Poormau ledge is now yielding from 25 to 40 tons of ore per day, of a very rich quality. The ledge is getting wider as the work progresses npon it; and by the aid of their new and improved machinery the mine will soon he able to constantly supply the mill with ore.

Peck, Cope & Co. have sold the Potosi mine to a San Francisco company for $30,000.

The Boise *Statesman* says: We learn from Dick Griffin, Supt. of Hailey's line, that a 75-lb. nugget, containing about one-third gold, was found last week near El Dorado City, on the slope towards Shasta Creek.

MONTANA.

Helena *Post*, Dec. 18th: New diggings have been struck near the lower finme of Dr. Hunter. They were first discovered in widening a flume, and before night the ground was all taken and recorded. The prospects are from 10 to 15 cents to the pan, and great excitement prevails in regard to the discovery. The claims of the Brumley boys and Mr. Thomas are still being worked with good results.

With but little interruption the Ricker mill has been crushing rock from the I. X. L. works of the Union Whitlatch mine during the past year, and has cleared for its owners $200,000 above expenses.

In Rochester district, Hendrie and McAndrew & Wann's mills are in full opera-

tion, and are crushing day and night. The Hendrie mill is constantly employed upon the Watseka rock. The McAndrew & Wann mill on that and custom rock. Although the clean ups are not made known, enough is known to give assurance of highly satisfactory results when they are given to the public. A new mill is to be erected there in the spring under charge of Mr. Vance, representing an Illinois company. The district is in a most flourishing condition, and bids fair to be the most attractive to millmen of any in the country. In Silver Star a large amount of work is being done on almost all the lodes. The Trivitt mill has been stopped for a short time to renovate some of the machinery. The Everett mill is pounding away upon the Green Campbell rock, with every promise of success.

Yesterday the I.X.L. mill cleaned up 400 ozs. of gold from an eight days' run, amounting to about $9,000.

NEVADA.

HUMBOLDT.

Unionville *Register*, Jan. 2d: The Winnemucca correspondent writes: Buck & Kunkel have struck another very rich deposit in the Pride of the Mountain. A large specimen of the ore, weighing 70 lbs., literally spangled with native silver, is now on exhibition at the office of the Pacific Union Express Co.

REESE RIVER.

Austin *Reveille*, Dec. 26th: There are reports of the discovery of rich deposits at White Pine during the past week.

Jan. 1st: During the year 1868, there was shipped from this city 2,357 bars of bullion, valued at $2,745,948.63.

Jan. 2d: The principal mines in Silver Bend are developing immense masses of choloride ore, which in Leon & Co's El Dorado South is 50 to 100 feet deep.

White Pine *News*, Jan. 2d: The last lot of ore worked from the North Aurora mine went $384 per ton. There is a large quantity on the dumps, of second class ore, that will yield $150 per ton.

A company operating in this district has purchased the mill of the Big Smoky Co., and will move it to this place.

The Irvine ledge shows plenty of horn silver, and very little base metal.

The Governor ledge shows 12 feet of quartz and a fair quantity of milling ore.

The Mazeppa mine improves rapidly in the quality and quantity of its ore. Some of the ore is fully equal to any found in the Eberhardt.

In the California ledge some very fine chloride ore is in sight.

The ore house of the Oasis mill contains at present from 425 to 450 tons of Eberhardt ore, that will yield from $600 to $1,000 per ton.

NEW MEXICO.

Santa Fe *Gazette*, Dec. 12th: Col. Anderson who was in the city early in the week, reports the quartz mill of the New Mexico Mining Co. as constantly at work, and turning out the usual quantity of the precious metal.

The new coal mine is one of the best in the country and will prove a source of great economy in working the company's machinery.

Central City (Col.) *Register*, Dec. 2d: The mining interests in Mexico now bear a brighter aspect than ever before. The government has recently passed a law allowing bullion and coin to be shipped out of the country at 2¼ per cent. Seven American companies are at present taking out 700 to 800 ozs. per day. In the San Miguel tunnel a vein has been cut nine feet wide, which yields $6,000 to the ton, and this is their second class ore. Their first class ore yields $17,000 to the ton.

OREGON.

Portland *Oregonian*, Dec. 26th: Wm. Hitchcock and others, of Umatilla, will set up a new quartz mill in Eagle Creek next spring.

WYOMING.

Sweetwater *Mines*, Dec. 23d: The vein of the Walrussa ledge is 2½ to 3 ft. in width with good wall rock. The ore exhibits free gold in abundance.

We extract the following from an article in the Central City (Col.) *Herald:* South Pass City is very pleasantly located and the climate is fine, its altitude being about the same as Denver. Mr. Anthony visited and inspected 12 of the best developed lodes. Some of them have more than one shaft sunk, and are opened to a depth of from 35 to 80 ft. and show crevices varying from 18 in. to 2¼ ft. The ore shows free gold from the top down, and runs in common stamp mill from $7 to $100 per ton, and some has shown $800 per ton by assay. There are three stamp mills in operation, two run by water, and one run by steam. There are five gold-producing gulches, which pay $15 per day to the man. The principal gulch is Rock Creek Gulch which has oceans of water, and is known to have paying mines for miles. Some of the claims on this creek have paid $75 per day to the man.

[Owing to a press of matter this week, we have been compelled to condense our summary to a considerable extent, and leave out some important news, which we will present to our readers in our next issue.—Eds. Press.]

McLennan, Whelan & Grisar's Wool Circular.—This annual publication presents a synopsis of the wool trade of California for 1868, embracing the exports and value of the leading products for the past ten years. California furnished to this firm in 1867, 681,022 pounds, and Oregon, 577,325 pounds; in 1868, 885,900 pounds, and Oregon, 421,460 pounds. The total export in 1867 was 10,758,531 pounds, and in 1868, 15,539,417 pounds.

The spring clip of 1868 was the best ever shipped from here, and has brought our wool in favor with the Eastern manufacturers; but it appears that the quality of the wool sent to market varies very much with different seasons, for some reason or other not accounted for.

California wools, at present, class as Medium Wools, and even the choicest clips do not come up to the standard of Fine Wools as compared with some other wools.

It is thought that most of the flocks at present in this country would be much improved by the infusion of a little blood of long-wooled sheep. Local factories worked up, in 1867, 2,975,000 pounds, in 1868, 2,694,236 pounds.

Swansea (?) Furnace in Colorado.—A furnace now brought into use in Colorado, is thus described in the *Artisan's* report of the proceedings at a recent meeting of the Polytechnic Association of the American Institute: This furnace is designed for burning the sulphur from copper and iron pyrites, and is described as consisting of a hollow vertical shaft about twenty feet high, with an internal horizontal area of four feet by two. This shaft has arranged within it a number of triangular bars made of fire-clay, about four inches wide. These bars are placed about four inches apart, and constitute a series of shelves "arranged alternately in the same vertical line," the series extending nearly to the bottom of the shaft. The fuel by which these shelves and also the entire interior of the furnace is heated, is placed in a detachable fire-grate arranged in the bottom of the shaft. When by this means the furnace and the shelves have been heated to the required degree, the grate is removed, and the pyrites, which must contain at least 16 per cent. of sulphur, is poured in at the top of the shaft, a sufficient quantity of air being simultaneously admitted at the bottom of the latter to furnish oxygen for the combustion of the sulphur, this combustion evolving sufficient heat to make the process continuous. The gaseous products of combustion, which of course consist, for the most part, of sulphurous acid gas, are conveyed away by suitable means, and employed in the manufacture of oil of vitriol.

Patent Office Rule.—Commissioner Foote issued the following circular, Oct. 1st, 1868: "To Applicants and Attorneys—The practice of returning to applicants and attorneys the specifications and other papers filed by them, to enable them to amend the same or for other purposes, has been discontinued.

Specifications filed previous to the 1st day of October, 1868, will be returned *once* if called for, in order that the applicant or his attorney may make a copy, if he desires to do so.

In the case of applications for patents filed subsequent to the aforesaid 1st day of October, the applicants will be expected to retain copies of papers so filed, or to rely on the office for copies thereof, at the usual rates. Elisha Foote, Com'r.

Judgment of Men's Capacity.—Ralph Waldo Emerson says: A man passes for what he is worth. Very idle is all curiosity concerning other people's estimate of us, and all fear for remaining unknown is not less so. If a man knows that he can do anything—knows that he can do it better than any one else—he has a pledge of acknowledgement of that fact by all persons.

Our Mining Interests.

[From the Commercial Herald.]

New Mexico.

A good deal of attention has been paid the past year to gold prospecting and mining in this Territory, leading to the discovery of very extensive districts abounding in auriferous veins and a considerable extent of surface deposits. The districts in which the most encouraging discoveries have been made, and in which the greatest activity prevails, lie in the Moreno Mountains and in the Cimaron and Pino Alto country, where several thousand miners have been engaged, the most of them realizing fair, and many of them large wages. Water having been supplied more abundantly, through ditches lately constructed, mining was being carried on both by sluice and hydraulic washing, the business having before been performed mostly through the aid of the batea and rocker. A number of quartz mills and smelting works have been put up in the several districts; some of the ores requiring smelting, though the most of them are capable of reduction by mill process. A considerable amount of bullion has already been shipped from that region, which is likely soon to become the theatre of permanent and profitable mining.

Alaska.

Although this newly acquired possession is known to be rich in coal, copper and iron, we have yet to demonstrate that it contains any great wealth of the precious metals, the explorations thus far undertaken having failed to establish the fact, or even give strong confirmation of the rumors bearing affirmatively on that point. That there is a considerable extent of low grade placers along the Stickeen, and perhaps several other rivers, has been known for a number of years past, but as they have capacity to pay not above $3 or $4 per day to the hand, they are, under the circumstances, for the present valueless. Several prospecting parties, during the past Summer, made more or less extended trips along the inland rivers and streams in search of paying placer mines, but, so far as has transpired to the public, without having secured the object of their search. The rumor prevalent in this city about one year ago of very rich gold bearing ores having been found on a stream not far from the coast does appear to have been well founded, no confirmation of it having since come to hand.

COPPER.

In this branch of mining there has been an almost total suspension of labor the past year throughout all parts of this coast, the depressed state of the market, both at home and abroad, forbidding active operations. How long this discouraging state of things is likely to last, it is impossible to say, though a slightly increased demand for these ores, with a better margin for sales, is already discernable; and there is a prospect that, from this time forth, there will be a gradual revival of this important interest. The shipments from San Francisco for the year amounted to 5,042 tons; of which, 1,450 were sent to Great Britain, and 3,592 to New York.

COAL.

The various companies engaged in mining for coal at Mt. Diablo and other points on this coast, have been more than usually active the past year, taking out more than their ordinary complement of this fuel, for which they have found a ready and remunerative market. They are all in a moderately prosperous condition, with no prospect of being forced to curtail their operations at present either through a lessened demand or a failure in the capacity of their mines.

BORAX.

After an annual production of about 500 tons of this salt, the company engaged in its extraction in Lake County have, from some cause unknown to the public, suspended operations, none having been shipped to this city by them for some months past—none, in fact, having been produced at their works, but whether from failure in the supply of the raw material or from considerations of a business nature on the part of the company, we are not advised. It has always been understood that the crude article existed at Borax Lake in inexhaustible quantity, and that it could be prepared and delivered in this city at prices leaving a good margin of profits—all of which is doubtless true. But so it has happened, that after importations had ceased, in consequence of expected supplies from this source, the market is now found to be quite bare of this commodity, causing prices to advance materially, while it is said this company do not contemplate a resumption of operations within some months at least. This is certainly an anomalous and, to the public, an unfortunate state of affairs, and one which they will look forward to the solution of with some degree of curiosity.

QUICKSILVER.

As is generally well known the several Quicksilver mining companies of California have entered into an arrangement looking to a restriction of their joint production to a quantity not likely to be largely in excess of the prospective consumption of that metal. Without inquiring into the legitimacy or policy of such an arrangement, it may be observed that the stock of the principal company entering into it would seem to have since suffered a material depreciation, having been quoted four years ago in the New York market at $100, at which time the company declared and paid a handsome dividend, showing a prosperous condition of affairs whereas the stock to-day is only quoted in New York at $25, the market having for some time past been depressed and fluctuating. It is true, this may have been one of the objects aimed at from the first—a view of the matter requiring for its entire justification the not very violent presumption that this extensive combination was effected more for stock jobbing purposes than for prosecuting a legitimate mining business. In regard to this, however, we are not posted, though it is a little singular that a company which a few years ago valued its possessions at many millions of dollars, and was doing a large and profitable business, should now find itself deeply in debt, if their own statements are to be accepted as true. This is certainly an anomalous state of affairs, arguing a little sharp practice or a bad financial status on the part of the company, or else a very unprosperous condition of the Quicksilver mining interest.

Operations in Tin Mining.—Pioche and others who are interested in tin mines in the southern coast, have engaged practical tin miners—the Williams brothers and others—and have commenced actual operations, not only in mining for tin, but in making preparations for dressing. Whether all the delicate tin dressing paraphernalia of Cornwall and the Erz Mountains are to be put in operation, is a question of economy which does not appear to have been fully determined. It is presumed the ores are rich enough, as at the Banca mines, to pay without going into such detail. Smelting operations are not to be undertaken until Spring.

Since writing the above, Mr. William Williams, M. E., has brought us samples of tin ore from the mines in question, which are located in the Temescal Mountains, sixty miles nearly due east from Los Angeles, and easterly from San Bernardino town. They have sunk a shaft in a foot-hill, of forty feet depth, and another situated 268 feet towards the north of the preceding, on a rise of the hill, which is eighty-six feet in depth. The ledge has been cross-cut between the shafts four times, showing an average of about nine feet in width; trend of the ledge, N. 34°; it dips to the west at an angle of 17° from a vertical line. Mr. Williams had 2,200 pounds of ore brought up with him, and eight tons more are on the way. The estimated yield from four cross-cuts is 20 per cent., the predominant ore being brown oxide of tin (black tin). The ores thus far produced will be worked into white tin, in this city. Regarding the specimens, see "Contributions to Our Cabinet."

Acarus Sacchari.—Never use raw (unrefined) sugar. It is almost sure to contain the insect named above, which is akin to the *Acarus scabiei*, or *itch* insect. Dr. Harsall of London found it in 69 out of 72 samples of raw sugar. He did not detect it in a single specimen of refined sugar.

"Island No. 10," in the Mississippi, was turned by the Union forces in the late war, by the construction of a canal in one of the chasms left by the earthquake of 1811.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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San Francisco:

Saturday Morning, Jan. 16, 1869.

Notices to Correspondents.

MORTAR.—Adhesion takes place solely between the surfaces of bodies. Anything, therefore, which increases the extent of surface materially extends the exertion of the force. Minute subdivision by increasing the extent of surface, greatly increases the effect of adhesion, hence the advantage arising from carefully slaking lime so that no lumps may remain. A cube of one inch on the side will expose a surface of six square inches: *i. e.*, there is a square inch of surface on each of its six faces. Suppose this cube to be subdivided into a number of smaller cubes, each of which is only 1-1,000th of an inch on the side; 1,000,000,000 such cubes would then be contained in the spaces formed from one cubic inch. Further, as each little cube has six sides, the surface which it will expose is 6-1,000,000th of a square inch, or 1,000,000 of them will expose six square inches; that is, as much surface as a solid cube of an inch on the side; the 1,000,000,000 cubes will consequently expose 1,000 times as large a surface, or upwards of 41.6 square feet. The force of adhesion, therefore, by such a subdivision, should be increased somewhat in this proportion.

TURBINE, Sonoma County.—See the continuation, this week, of our article on turbines, for the information you seek. Instead of thirty-eight revolutions a minute, our article should have read 1,338,—for a 16-horse-power, and sixty miners' inches of water, at 100 feet head. Such a turbine measures nine inches in diameter, and costs $100.

J. C., SONORA.—Chemical affinity can only be displayed between bodies of dissimilar constitution. No manifestation of this force will take place between two pieces of iron, or two pieces of copper, supposing each substance to be perfectly pure of its kind; but between sulphur and copper, or sulphur and iron, chemical action of the most intense energy can be produced.

CISCO.—Molybdinum is chiefly esteemed as a mineral rarity, being found generally in the state you describe, viz., possessing the appearance of plumbago, for which it is often mistaken. In that form this metal is combined with sulphur, forming the sulphide of molybdinum. The use of molybdinum is chiefly confined in the arts to the detection of phosphoric acid. It is used for this purpose in the form of molybdate of ammonia.

MINER, Cherokee, Butte County, will be informed in due time, of the methods in use for purifying quicksilver.

CLARENCE KING and his geological party, have reached Salt Lake and partly disbanded. Several of the members are to remain there for the winter. Mr. King goes on to Washington to prepare his report for publication. Next spring the survey will be continued from Salt Lake eastward.

Velocipedes.

The substitution of mechanical spokes and felloes for what Oliver Wendell Holmes has designated as the human wheel—the legs, being a wheel of two spokes, which constantly replace each other—affords such obvious advantages for speed, and even for economy of exertion on a level road, that it has not taken long for the velocipedes to establish themselves in San Francisco, in the favor of everybody who can appreciate the beauties of a mechanical idea applied to some practical purpose. American inventive talent has taken hold eagerly of the idea of the velocipede, and if something of a practically useful and successful character be not developed out of the velocipede idea, it will be owing to the fact that the mechanical principles involved are adverse thereto. Yet it is all so simple, and the conclusion reached at first glance is so self-evident, that we are assured the attention given to, and the hopes entertained of velocipedes, are not futile. At the least favorable estimate of the value of velocipedes, they may be said to have the advantages of skating and rowing; whilst their operations are on land, and in the channels of locomotion where pleasure and business most have occasion to profit by using them.

The simple French velocipede does not seem to meet the entire satisfaction of Yankee inventive minds; yet while two fore-and-aft wheels are used, they are probably not capable of being much improved upon. The tendency of the mechanical horse to lie down upon his sides the moment he encounters anything to diminish his spirits, and the utter and complete weakening of which he becomes shamelessly guilty upon slight cause, render him a little unpopular with the timid; while the inexorable sprawling cranks prove offending to the dignified, who would move only to their own unmechanical rhythm and tact.

Invention is active in suggesting and making all kinds of improvements. The principal establishments at which velocipedes are now being manufactured in this city, are the Golden State, and the Ætna foundries, and Kimball's and Casebolt's carriage factories. French and Eastern velocipedes of the fore-and-aft style, have been imported to some extent, costing $60 currency in New York. They are also made at the Golden State Foundry, and at Kimball's carriage factory, at about $65, which is said to leave little margin for profit. The ordinary weight is fifty pounds.

Pickering's and Hanlon's are two Eastern patented improvements, relating to the manner of breaking, adjusting the seat, decreasing the weight, etc. Menon, is the name of one of the leading French manufacturers. In the Parisian races, the Americans have usually won.

At the Golden State Foundry there is to be seen a three-wheeled French treadle velocipede, with arm railings, between which two persons stand, operating with their feet. It travels along very imposingly where it can travel at all, but is pronounced not so practical as the two-wheeled mentioned. In the latter, slight modifications are being made; such as having the stirrup cranks of wood, the seat on differently shaped springs, etc.

Of the new inventions, at least half a dozen are in an incompleted state; some of them showing great ingenuity and the application of original principles in their construction.

At the Fulton and Ætna foundries there are several three-wheeled ones, in which a compound treadle, and the lever principle, are brought into practice; both in an original manner, concerning the details of which we are not at liberty to speak.

At Kimball's carriage factory, corner of Fourth and Perry streets, they are making the simplest velocipede of all that have thus far appeared. It is at the same time one of the cheapest, the most rapid, and barring a question or two of practical operation, promises to be one of the best. It has two wheels, five feet in diameter, running side by side, like a sulky. It will be suited for running in the horse railroad track.

A three-wheeled velocipede is being made at Kimball's, which does not appear to differ much from that at the Golden State Foundry.

At Casebolt's carriage factory, corner of Market and Fifth streets, there is a four-wheeled velocipede nearly completed, of which the driving wheels are ten feet in diameter. The inventor is Mr. N. Landry. It differs from the large one at Kimball's, simply in having the seat frame supported and prevented from oscillating, by an extra axle with wheels, and in being moved only by hand-power. This will cost $350.

On a fine evening a promenader will sometimes pass half a dozen velocipedes in half an hour on Bush street, and the Cliff House road.

MODIFICATION OF THE GERMAN PERCUSSION TABLE.—A. Schulenberg, of this city, formerly an employé in the pyrites concentration works at Mainz, on the Rhine, suggests an improvement on the cumbrous old German percussion table. He makes his slanting table shorter, and wider; instead of having one surface, he has three or four over one another, arranged in such a manner that the ore, after it has been washed on one, will precipitate itself over its upper edge, and the process is thus continued on the next below; so that the work of three or four concentrating tables is done on one. Mr. Schulenburg is undoubtedly practical in his ideas, and understands the matter he has in hand. In the percussion tables to which he has been accustomed, and which he has imitated in principle, the gangue is washed off to the lower end by the water, and the heavy mineral is caused by the percussion, to travel to the upper end, and to fall down over it without the necessity of shoveling. In separating pyrites from zincblende—minerals of very little difference in specific gravity, though the result is accomplished economically and very thoroughly—three or four shovelings from one table to another, are practiced by the Saxons. A great advantage of Mr. Schulenberg's table is, that he can apply a fresh stream of clear water to his washing intermediately in the process, on the several superimposed surfaces, which can be regulated independently, and from which the earthy particles are thus searched out much more delicately by the clean water applied. Letters will reach Mr. Schulenberg through the San Francisco Post Office.

HOWLAND'S NEW ENGINE.—Mr. W. H. Howland, one of the proprietors of the Miners' Foundry, in this city, has a four-cylinder engine operating with a new style of rotary valves, of his own invention, which is giving ample satisfaction. For simplicity, cheapness, and durability, so far as apparent it has no superior, and we shall observe its further testing with much interest. Mr. Howland has, on the same engine, a very compact and simple governor, possessing several points of improvement. Steps have been taken by the inventor to secure patents, and we shall have occasion to mention these inventions more fully at a future time, and probably with illustrations.

MINING TITLES.—A bill is before Congress proposing to extend the granting of fee simple titles, to placer claims, and it will undoubtedly be passed. The Schofield Gold and Silver Mining Company, located at Grass Valley, has obtained a fee simple title to 980 feet on the lode, with 150 feet on each side,—which is the first issued by the Government under the Act of July 26th, 1866.

CONTINENTAL Life Insurance Company, 023 Montgomery street, corner of Pine.

THE REGENTS of the State University—who meet again to-day—find themselves, after all, not so flush, financially, as it was arranged in the last Legislature that they should be, by turning on in order to put in motion the educational mill, a number of streams and streamlets from different sources, which flow through the State Controller's office. According to the report of the Finance Committee at the last meeting, the $200,000 which were to proceed from the sale of overflowed lands, are not forthcoming, because all those lands are claimed by private parties, with whom it would be necessary first to litigate. As $50,000 to $60,000 will be required during the first year, according to the published estimate, for furniture and apparatus, preparing and embellishing the grounds, forming the nucleus of a cabinet and for instruction, not to mention the expenses of the Board of Regents—leaving nothing wherewith to commence building the academic town,—it has been virtually decided that Berkley shall be postponed to a temporary futurity, and that the State University, after all, shall be and continue at Oakland, in name, though not in fact and outwardly, a different institution from the College of California. McClellan having refused to accept the Presidency, the names of Judge Hager, (one of the Board) Prof. John Le Conte, (one of the professors) Prof. Hart, of the N. Y. State Normal School, Prof. Timothy Dwight, Prof. George Davidson, of the Coast Survey, Prof. Cook, of Rutger's College, and Judge Deady, of Oregon, were proposed; but no action was taken thereupon.

OGDEN CITY, at the mouth of Weber Cañon, near the flat eastern shore of Salt Lake, is the gaol towards which the two Pacific Railroad companies are striving, with their mightiest efforts, first to complete their respective roads. The race is so nearly equal now, and the junction there is so natural and in accordance with the original design of the organization of the two companies, that Ogden City, we may take it, will be the meeting ground of the two armies. Being also the nearest point to Salt Lake,—a few hours' drive,—it is probable that Mormondom will be deluged with a class of more refractory subjects than the astute Brigham, with all his power, may know how to rule, or to manage. The Mormon leaders are very wise, but if they have not kept to themselves the ownership of lots at Ogden City, there is danger that Salt Lake City itself may, at no distant day, be overshadowed by rival influences. Strange sounds, and a strange activity for Salt Lake, are witnessed this winter in those weird cañons; and though it is the Mormons who are grading and building, the eastern and western gentile streams will flow into Ogden City as the brooks do into Salt Lake. Lead, from the smelting works at Cottonwood Cañon, and from Conner's mine, is awaiting shipment, via Ogden City. It is highly probable too that the valuable iron mines where Brigham has been proposing to erect furnaces, will be developed during the coming season.

THE COAL beyond Argenta, (the discovery of which was referred to in our Pacific Railroad article on November 21st,) is beginning to attract attention. The Nevada papers speak of excitement at Argenta and in Battle Mountain District, in regard to new discoveries recently made. A vein five feet thick is situated on the side of a mountain near Argenta. Several men are at work taking out the coal, which is of an excellent quality. Some of it has been tested as fuel for locomotives, and with good results. Dr. Harrison, of Crystal Peak, who has long been mining for coal in that vicinity, has been running a tunnel in the side of the mountain about a mile east of Verdi Station, and at a distance of 170 feet he has found a vein of coal three feet in thickness. A car load of the coal is to be sent to Sacramento. It is reported that another vein of good coal has been discovered on the line of the railroad, near Maggie's Creek.

Our Home Industries.

[From the Commercial Herald—Annual Review.]

WOOLEN MANUFACTURES.

The manufacture of woolen goods has steadily increased during the past year. The old established mills have run most of the time to the utmost extent of their capacity, while several new mills have also gone into successful operation. The demand for domestic-made woolens is steadily interfering with importations in their respective grades, while the local manufacture of clothing is also largely increased. All indications portend still greater activity in this branch of manufactures for the future, for which the speedy completion of the Pacific Railroad promises to open new and extensive markets in the interior of the continent, whose inhabitants will draw the bulk of their supplies from the Pacific coast. The speedy settling up of eastern Nevada with a very large population is assured by the discovery of immensely valuable mineral deposits at White Pine and that vicinity, and it is extremely probable that but a short time will elapse before similar valuable discoveries of mineral will be made in Utah, by which a vast emigration will be stimulated to that Territory from the Atlantic States.

In conjunction with these favorable prospects for manufactures on this coast, is an unusual disposition shown on the part of our people to engage in new manufacturing enterprises. The old prejudice against capital stock manufacturing companies seems to be slowly passing away, and the people of many of our interior towns are disposed to invest their local capital in woolen and other mills. It is to be hoped that this disposition to aggregate small capitals by our people in manufactories will continue to increase, as it will prove of immense value to the general prosperity of the State. California has all the adjuncts for success as well as the most favored States on the Atlantic side. She produces the raw material in abundance, has access to profitable markets and competent labor, and only needs the concentration of a portion of the capital of individuals to insure successful pecuniary returns. Nature has rarely gifted her in productive soil and healthful climate, and Providence has placed her in such position as to command a tribute for her industries from the lesser civilized nations bordering on the Pacific. It only needs a concentration of energies and purpose on the part of her people to develop a future of prosperity such as is not yet known in the history of any country. That this will be done, we cannot doubt; the energy and activity shown in the past by our people, though often misdirected, being ample proof.

The woolen mills located in San Francisco are the oldest in the State, and consume more wool and produce a greater variety and value of manufactures than all the other mills on the Pacific coast. The first to commence operations was the Pioneer Mills, located at Black Point, which, in 1859, manufactured the first blankets and flannels made in California. From that date, although once destroyed by fire, these mills have steadily increased their manufacturing capacity and quality and variety of goods. At the present time they have the most improved machinery in use, the produce consisting of all grades of blankets, flannels, plain and fancy, a great variety of cassimeres, tweeds, cloakings and the medium grades of broadcloths, finding a ready and profitable sale. The mill, during 1868, employed three hundred and fifty hands constantly, manufacturing 1,500,000 pounds fine wool, and turning out about $800,000 manufactures. The exhibition of goods made by these mills at the Sixth Industrial Fair of the Mechanics' Institute, in this city, in August and September last, was remarkable for variety and quality. The display, in connection with the other two local mills, occupied wall and floor room on the entire south side of the Pavillion, which was three hundred and twenty feet long, besides several large tables, which were in the vicinity. The woolen goods exhibition was a constant source of wonder and delight to visitors, and gave them a most comprehensive idea of the extent and value of their local industry.

The Mission Woolen Mills, located at the corner of Sixteenth and Folsom streets, commenced operations in 1861, and has, without interruption, continued manufacturing since that date. From making blankets and plain flannels, the range of manufactures has extended to producing all grades of those goods, as well as cassimeres, tweeds, cloakings, traveling and tartan shawls, buggy robes, army and navy broadcloths, etc., besides occasional varieties, such as super and ingrain carpets, which last were the only ones ever made on the Pacific coast. One of the most valuable features connected with these mills has been the individual enterprise of their founder, Donald McLellan, who has been the first to manufacture new varieties of goods, risking a successful market in the face of strong competition with importations. In this particular it is gratifying to state that the results have always been favorable, and that his business sagacity has been pecuniarily rewarded. At both the Industrial Exhibitions of the Mechanics' Institute, held in this city during 1864 and 1868, the display of manufactures of the Mission Woolen Mills were unsurpassed in their department, and at the World's Fair at Paris in 1867, the blankets and flannels exhibited by them obtained the highest prize over all other competitors from the Atlantic States. The Mission Woolen Mills has about twenty per cent. less machinery than the Pioneer Mills, but running most of the time day and night, consumes as much raw material and labor. In 1868 they employed four hundred and fifty hands, used 1,500,000 pounds wool, which made $800,000 value in manufactured goods.

The Pacific Woolen Mills is the only one making knit goods for underwear on the Pacific coast. The works are on Folsom, between Eighteenth and Nineteenth streets, and give employment, in the building and outside, to over five hundred operatives. The machinery is of the latest improved kinds, and it is claimed that they not only produce a greater range of varieties and qualities of goods than any other mill, but some styles, which for fineness and value, are not made elsewhere in the United States. Although operations were only commenced in June, 1867, the mills have found a steady and profitable market for their goods, which are gaining ground wherever known, as against importations. During 1868 the Pacific Woolen Mills used 300,000 pounds of the finest class of wool raised in this State and Oregon, besides importing some of a still finer quality from Australia. The total value of manufactures during the same period was about $300,000, which amount, in consequence of additional machinery received lately, will probably be much increased during the present year. The Pacific Woolen Mills were awarded a gold medal at the Mechanics' Fair in 1868, for the excellence of their manufactures.

The other woolen mills in the State are the Woolen Mills at Marysville, the Capitol Woolen Mills at Sacramento, and the Merced Woolen Mills on the Stanislaus river. The Marysville Woolen Mills have been in operation for a little more than a year. They are known as a three-set mill, and making mostly flannels and blankets, produced about $175,000 manufactures in 1868. The goods are of excellent quality, and find a ready sale.

The Capitol Woolen Mills commenced operations in September, running only a portion of their machinery. They are known as a four-set mill, and will manufacture about $200,000 per annum. Their manufactures, so far, have been confined to blankets and flannels, but when in complete operation they will make cloths, cassimeres and tweeds, as well.

The Merced Woolen Mills have only been in operation for a few months. They are known as a four-set mill, with about the same manufacturing capacity as the Capitol Mills.

The oldest woolen manufactory on the Pacific coast is the Willamet Woolen Mills in Oregon, which commenced operations in 1857. The Oregon City, Ellendale and Eagle Mills, in the same State, have been in operation for several years, and another mill is reported as being about to commence operations. The entire mills in Oregon in 1868, consumed about 1,000,000 pounds wool, their manufactures being valued at about $600,000. They make a great variety of goods, the larger part of which supplies a profitable local demand, comparatively small amounts being sent to San Francisco.

Several small woolen mills are projected in California, which will probably commence operations during the present year. The amount of capital in each varies from $20,000 to $50,000, and their manufactures will, at first, be confined to blankets and flannels. One of the mills will be at Santa Rosa, Sonoma county; another at Colusa, and a third at Stockton.

COTTON MANUFACTURES.

The only cotton mills on the Pacific coast are the Oakland Cotton Mills, located in that city, in Alameda county. The inability of obtaining a supply of California-grown cotton and the difficulties attending importing from Mexican and other ports on the Pacific or from New York, have comparatively crippled the operations of these mills since their erection. Besides producing sheetings, shirtings and drilling, these mills have made considerable quantities of cotton and wool tweeds, for which there has been an extensive demand. Owing, however, to the difficulty in obtaining supplies of raw cotton, the mills are to be used in manufacturing flax and hemp bagging, for which there is an immense demand for grain and wool purposes.

FLAX AND HEMP BAGGING.

As above stated, the Oakland Cotton Mills are to be altered so as to manufacture flax and hemp bagging. Suitable machinery has been imported from Dundee, Scotland, a portion of which arrived, with a number of skillful operatives in the ship Santa Lucia, in December, 1868. Measures have been taken to secure a supply of jute hemp from Calcutta and flax in California, so that manufacturing can be engaged in during the year. The consumption of bagging for grain and wool sacks in California has already attained immense proportions, and promises to largely increase. It will be of great advantage to stop a drain of treasure, estimated at $2,000,000 annually, and at the same time a new branch of employment given to our people. Large as the demand has been for both grain and wool sacks, the vast increase in both, and more especially in the production of the former in California, insure a profitable investment for capital in manufacturing, which will require a number of large mills to supply. The facilities for procuring a supply of flax fibre suited for the purpose are ample, many of the farmers of the coast counties having already engaged in flax culture for seed only, with profitable results. Heretofore, the straw which contains the fibre, has been burned, there being no sale for it. It has been found, through repeated trials, that the fibre can be separated very easily and cheaply from the straw, and it is believed that an abundance of the latter can be had at low price, if desired.

FRUITS, NUTS, ETC.

The crop of dried and nut fruits during 1868 have either not been as large as in preceding years, or they have, to a greater extent than usual, been absorbed by a local demand. No State of the Union possesses a more generous soil or favorable climate for the production of fruit, those of a semi-tropical as well as temperate zone being grown to a high degree of excellence. Almonds of all kinds are a sure and plentiful crop in all the valley lands of the State, with the exception of a few localities that are subject to very late frosts, by which the more tender varieties are sometimes destroyed. In the Southern counties, such as San Luis Obispo, Santa Barbara, Los Angeles, San Bernardino, and San Diego, the climate and soil are peculiarly suited to growing almonds, and it is very probable they will in time be produced as largely as now in the south of France. With the large emigration continued that has set in within the last twelve months, those counties are sure to make great progress in growing the finer and more valuable varieties of fruit, among which almonds will take high rank. The speedy completion of the Pacific Railroad promises to soon increase the population of the States and Territories in the interior of the continent, of which the westernmost portion, or fully one-half the population, must draw their imported supplies from the Pacific coast. There is virtually no limit to the demand that will soon arise for semi-tropical fruit in the interior, and aside from its superior freshness and flavor, California, by her position, possesses many advantages over New York or other Atlantic ports in supplying them.

The Maderia, or so-called English walnut is a very prolific bearer, and is largely cultivated throughout the State. The amount of the crop for 1868 is not known, but must be considerable, as very large numbers of trees have lately come into bearing. The tree requires very little attention, is of fine appearance, and the fruit, on account of its superior freshness, sells for nearly double the price of the best imported. Large numbers of the trees are in consequence being planted by farmers and others. There is very good reason to believe that at the rate the cultivation of this nut is progressing, California will be able to supply the entire demand of the United States before the close of the present century.

Another species of nut culture that is about being engaged in, is that of the Japanese or Italian chestnut. This fruit has been grown from seed, in very limited quantities, for two years past. During December, 1868, a considerable number of trees have been imported from Japan, and arrived in comparatively good order. The trees were mostly dwarfs, having been budded on other stock, and will therefore soon come to maturity, a portion of them having already borne fruit before shipment. At present the importation of the fruit from Japan is so precarious that it has been abandoned, scarcely one invoice out of ten arriving in fair order. The Italian nuts have to be kept until several months after harvest, or be kiln dried, to admit of shipment with safety across the Atlantic. California will virtually have a monopoly of the domestic raised fruit which can be transported by rail from October until May without damage. Attempts have been made to grow the various nut fruits of the Atlantic States, but with exception of the common chestnut, very little success has been had. The fault is said to arise from the vitality of the seed being destroyed by heating while on the voyage via Panama.

Oranges are now grown with good success in almost all the valley counties of the State, the fruit even in 39 degrees of latitude ripening in the open air in January and February. A large number of trees, mostly in the southern counties, are in full bearing, the crop of 1868 being sufficient in quantity to supply the markets from January 1st to May following. The tree is being extensively planted, and the fruit has so far been very remunerative to growers. Besides the native lemon, which was introduced by the priests soon after the establishment of the various Missions in the southern portion of the State, quite a large number of trees have, within the past ten years, been raised from Sicilian and Malaga seed. The last two varieties have attained in California a perfection of size, color, aroma, and flavor that far exceeds the original fruit as imported, and in time the crop will increase so as to fully take its place. Limes grown from imported seed also improve upon their original stock in both size and flavor. The production is as yet limited, but the culture is largely increasing in several of the southern counties, where the tree seems to thrive especially well. Citron, the prepared peel of which is the fruit known by that name to commerce, grows in great abundance in the southern part of the State. The fruit is generally of unusual large size, single specimens having been brought to San Francisco weighing 46 ounces. With exception of a small quantity that is sent to San Francisco for exhibition, the whole production of citron is annually allowed to rot. No attempts, so far as known, have been made to preserve the fruit for either domestic use or export, although the process is said to be simple and not very costly. The annual consumption of the citron of commerce in the entire United States could, within ten years, be supplied by California produce, if men of intelligence and energy would engage in its manufacture.

Prunes of both the German and French varieties have been grown to some extent in California, comparatively large quantities of each kind having been dried for home consumption. The fruit grows to a large size, and the probabilities favor its increased production until importations cease. Olives have been planted, and thriven well at some of the Missions almost from the date of their being founded. The tree is not unfavorably affected by our winter cold, is easy propogated, and bears an abundant crop. There is a large field for the successful cultivation of this fruit to supply the local demand, as well as that of the rest of the Union.

In domestic dried fruits, such as apples, pears, peaches, plums, etc., quite a large amount is annually made. The fruit is of excellent quality, and finds a ready and remunerative market. All kinds of figs have been grown in the State with great success, but with exception of the native blue, or California fig, no quantities of any importance have been dried for market. Dried black or Zante currants have been produced in limited quantities during the past two years. The fruit raised is reported of excellent flavor and size, while its freedom from dirt or gravel gives it still greater advantages over the foreign article. The grape from which the Zante currants are made is known as the seedless Black Corinth, and is a remarkably vigor-

ous and prolific bearer. The propogation of tbe vine is being largely engaged in, and not many years will pass before tbe native cured fruit will be common in our market.

Tbe crop of California raisins for 1868 is said to be the smallest known since tbe business was first engaged in. Tbis has been owing to two causes, one of wbich has been the excessive importations of Malaga fruit during the last two years, which have glutted the market, and also to difficulty experienced in curing the domestic fruit without an extensive and costly system of kilns or drying houses. These last are rendered necessary to protect the fruit in drying from dews or slight rains which then often prevail. During the time of drying, a fall of rain scarcely wetting the surface of the ground sufficient to lay the dust, proves entirely ruinous to raisins, which tben are only fit for distilling. During the drying seasons of 1866 and 1867, B. N. Bugbey, of Folsom, who was the largest grower in the State, lost over 2,000 boxes of raisins through the prevalence of slight showers. As the business was so precarious, without large outlay for building, this gentleman only made a few boxes in 1868, turning his grapes into wine and brandy as being more profitable. There is but little doubt that the curing of raisins will ultimately become a large business, but capital will have to become more abundant and at lesser rates of interest to encourage growers in incurring large expenses for necessary fixtures.

The returns of county Assessors for 1867 give the following items regarding fruit trees in the State, viz.: Apple, 2,249,473 trees, the largest counties being Santa Clara 722,000, Sonoma 255,280, Shasta 232,340; peach trees, 984,621, the largest counties, Sacramento 74,300, El Dorado 56,200, Sonoma 52,912 trees; lemon trees, 3,700 (Malaga and Sicily varieties,) of wbicb Los Angeles has 2,300; orange trees, 17,397, largest county, Los Angeles, 15,000; and olive trees, 14,812, largest county, Santa Barbara, 12,000.

HOPS.

The culture of hops in this State is attended by so many favorable circumstances of soil and climate that it has proved quite successful to all wbo have engaged in the business. Hop growers find in all valley land (except in some localities along the coast) a perfect freedom from fog or dampness during the summer season, which protects the plant from mildew, blight, or insects, all of which are common and injurious in the Atlantic and so-called Western States, as well as in England and other hop growing countries in Europe. Hops grow well in all soils, both on river bottoms and uplands, the crops in the former being heavier and less delicate in flavor, while the yield in the latter is about one-third less, but of milder and better quality for several purposes. Another advantage in California hop growing is the almost entire absence of heavy storms of wind, which in the other States often do great damage by prostrating the vines to the ground, and frequently injuring them seriously. The plants in river bottoms often yield 1,000 pounds cured hops to the acre during the first year after planting, and frequently double that amount the next season. Some individual acres have been known to yield over 4,000 pounds after the second year, but such product is very uncommon. On tbe lighter soil of the uplands the general yield, under favorable circumstances, ranges from 1,300 to 1,500 pounds to the acre for the second year.

Tbo crop of hops in the State during 1867 is reported by the County Assessors as having been 560,407 pounds, the yield of 987 acres planted. Sacramento produced the largest amount of any one county, the yield being 412,500 pounds, from 430 acres. With the favorable circumstances noted above for hop culture, the opportunities for brewing, and markets for beer of all kinds, have no superiors elsewhere. The climate of San Francisco is equable to a remarkable extent, and brewing can be successfully engaged in on any month of the year. All the necessaries of water and good malt can be had to perfection, and the markets of foreign countries bordering on the Pacific are easy of access, and should be supplied from California instead of England and Germany, as at present. That this great field of enterprise will long continue to be unprofitably neglected by California brewers is not likely, nor will our hop growers bo confined to supplying the requirements of the local market. The continued and great increase of diseases among hops in the other States of the Union is being seconded by similar disasters in Great Britain and otber countries in Europe. The growing of hops is becoming a quite precarious business in most countries, and the superior climate and productive soil of tbis State will in time be drawn on to make good the deficiencies in tbe crops produced elsewhere.

One of the most valuable adjuncts to hop raising is tbe patent hop-kiln, invented in 1867, by Capt. Wm. M. Haynie, of Sacramento. The peculiar advantages claimed and proven for this kiln are, that when the green hops are once placed to dry, there is no sboveling or bandling them afterwards, even in bailing. The time of drying is also shortened fully one-third, so that three kilns can be dried in place of two, by the old method. Brewers will appreciate the value of the Haynie kiln, when we state tbat tbe hops are as perfect in form in the bale as they were before drying, each blossom being unbroken and containing all its lupuline and seeds. The perfection of the process has astonished all parties who have seen the hops in bale in this city. The advantages of the new kiln will, in time, cause its general use in all tbe hop districts of the United States, and largely increase the value of American hops by their perfect condition for export. We have no correct date as to the hop crop of 1868; it was, however, largely in excess of previous years, and prices, tbus far, low and unremunerative.

DAIRY PRODUCTS.

California, from the commencement of the gold excitement, caused by tbe discovery of the precious metal, has as a great agricultural country, stood in an anomalous condition regarding her dairy products. Rich in indiginous grasses of unusually nutricious qualities, and with an abundance of good stock, she has annually paid millions of dollars for imported butter and cheese. Instances were not common, a few years ago, where farmers owning large numbers of stock were too indolent to procure milk for their tea or coffee, while the butter and cheese purchased for their family's use were imported from New York or other Atlantic ports. Those who were the first to turn their attention to making butter and cheese have, as a rule, been well repaid for their energy and good judgment. Many others have since followed their example, but still over twenty-five per cent. of both butter and cheese are imported from Atlantic ports to supply our people. Great progress has, however, been made towards a general disposition on the part of our small farmers to make more or less butter and cheese for sale as well as home use, and the time is not far distant when importations will become so unprofitable as to cease. Along through tbe coast counties the advantages for making both butter and cheese are very great, the grass, from provalence of moist fogs, remaining green and succulent almost all through the year. Another feature connected with the present dairying in California, as compared with previous years, is found in the general improvement of quality of both butter and cheese made.

Our Ship Building Interest.

In the Treasury report, recently published, considerable stress is laid upon the extensive consumption of sbip building woods on the Atlantic coast, but, strange to say, no allusion is made to the vast forests still standing in primeval integrity upon the Pacific coast, and furnishing the very best timber for naval architecture. Nor are our almost illimitable resources for marine uses taken into consideration.—Sheltered coves and small, safe harbors abound along the coast of Washington Territory, where the forests grow close to the shores. Pitch, tar, turpentine and rosin are supplied in profusion by those forests; the great size of the trees furnish timber suitable for ships of any required tonnage; iron and copper are abundant; hemp and flax thrive in our soil; tbe climate permits out-door work all the year round; spars of the finest quality are cheap and plentiful; wages are somewhat higher, but the depreciated cost of materials more than counterbalance tbis item. Several first class vessels have been turned out here the past year at two-thirds what it would have cost to construct them of poorer materials in the Eastern States. These facts are known and being availed of by our merchants and ship builders, and the purchase of Eastern built vessels has about ceased in tbis section of the Union. Our ship building interests made good progress throughout the past year. Our yards were well employed, and a number of excellent vessels constructed at various points in Puget Sound. This industry is destined to become of leading importance, and will enable our Pacific possessions to do the carrying trade of this ocean.

During the past year seven thousand six hundred and four tons of new shipping, built on this coast, were registered at the Custom House, represented in tbe following manner, viz: eleven steamers, registering 3,132 tons; three barkentines, aggregating 793 tons; one brig, of 173 tons; four barges, of 798 tons; thirty-four schooners, comprising 2,628 tons, and four sloops of 80 tons, being a total of fifty-seven vessels.

Our Railroads.

Central Pacific.—This road is now completed to a distance of about five hundred miles from Sacramento, three hundred and sixty miles of wbich have been constructed during the year 1868—three hundred and twenty miles having been laid since the first day of July, 1868. The track is now being laid at the rate of from two to three miles per day; and Salt Lake, it is expected, will be reached sometime in March, and the entire line completed within three or four months thereafter.

California Central.—During the past year tbis road has been sold under the foreclosure of a mortgage, and it is now operated by the Central Pacific Railroad Company.

Western Pacific.—The grading of this road is nearly completed, and track-laying having been entered upon with vigor, will probably be completed inside of three months.

California and Oregon.—The work of constructing this road north of Marysville will be commenced as soon as the bridge across tbe Yuba river at Marysville, is completed, which will probably be in a few weeks. It will probably be completed as far as Chico in 1869.

California Pacific.—Now completed from Vallejo to Sacramento, 60 miles, with branch to Marysville, to be constructed the coming summer. Running time, 2½ hours. The average number of passengers daily is 220. The Napa Valley Railroad Company have just completed their line to a junction with the California Pacific, about seven miles north of Vallejo, and will run their cars from Calistoga, Napa, etc., over this road to Vallejo.

The Oakland and San Francisco.—Extends from the end of the wharf west of Oakland to Brooklyn, a distance of 4 miles.

San Francisco and Alameda.—Length now being operated, sixteen and a half miles, viz: From Alameda Point, on the Bay of San Francisco, to Hayward's. A steamboat line is run in connection with the road, the distance of water travel being five and thirty one-hundredths miles. It is intended to throw out two branches of this line from Hayward's to intercept the Western Pacific Railroad—one connecting in that part of Alameda County known as Amador Valley, and the other in the Southern part of the Alameda Valley, about fifteen miles from San José.

San Francisco and San Jose.—Extends between these two cities, a distance of fifty miles.

Napa Valley.—Road runs from a junction with the California Pacific Railroad, seven miles north of Vallejo, to Calistoga, a distance of thirty-five miles, via Suscol, Napa, St. Helena, etc.

San Jose and Gilroy.—Thirty miles long; the whole line graded and track laid down for fifteen miles. The whole will be completed, and the cars running by the last of February.

Steam Trade with China and Japan.

Our steam trade with China and Japan has been actively prosecuted by the Pacific Mail Steamship Company during the past year. It is considered so important that the Post Master General, in his annual report, presses upon the Government the necessity for establishing a semi-monthly line between this city, Japan and China. The steamers employed in this trade are the largest and finest in the world, reflecting honor upon the company which has undergone unusual expenditures to render them acceptable to the traveling and business public. It is certainly good cause for indulging in a little boast to say with truth, that tbe steamers connecting San Francisco with Oriental ports are unequaled. Another such ship as the China, Japan and Great Republic, the America, built expressly for the line under consideration, and equaling her predecessors in all respects, will sail from New York in April next, and upon arrival, will commence regular trips to Japan and back, the connection between Yokohama and Hongkong being performed by the first class steamers New York and Costa Rica. In 1868 the Japan and China line of steamships made ten voyages outward, the average time being 28 days and 21 hours to Hongkong, the trip to Yokohama occupying 22 days and nine hours, and the connection with Hongkong, 6 days and 12 hours. Return voyages averaged 29 days and 22 hours, requiring one day more, in consequence of prevailing contrary winds and currents. The amount of treasure shipped by this line in 1868 was $6,743,672, the total number of passengers carried hence in the same time was 4,033, including 239 in the cabin; the number of tons of freight transported from this city reached 6,356 tons, at an average cost of $12 per ton. The return voyages were nine in number, occupying an average of 29 days and 22 hours, for the reasons above given, which operate chiefly in the Yellow sea, between Hongkong and Yokohama. The number of passengers arriving in these steamers was 6,061, including 459 in the cabin, and the tons of freight brought amounted to 11,939, at an average of $12 per ton. These figures show 18,295 tons of freight; 10,095 passengers, including 696 in the cabin, and $6,700,000, in round numbers, passing between San Francisco and the Oriental ports named, on the steamship line in 1868. The freight gains, according to the foregoing statements, amounted to $219,540; the returns for passenger service were as follows, viz: for 696 cabin passengers, $208,800; for 9,398 steerage passengers, mostly Chinese, at $40 per head, $375,920, making a total of $804,260. This does not include the percentage paid on nearly seven millions of treasure. The importance of this steamship line can scarcely be overestimated. Our relations with Eastern Asia have received an impulse, through its means, altogether unknown before. Chinese and Japanese seclusiveness have given way before its assaults, and a spirit of amity and confidence engendered between the American people and Asiatics, which promises to result in the greatest good to all. The very first trip made by the pioneer ship, the Colorado, enlarged our traffic with Japan to such an extent that our imports on that one occasion were more than three times as large as during the whole first quarter of 1866. The trade in precious metals, which are so largely absorbed by Oriental countries, must eventually fall into our hands instead of going by way of London, and a great change has already been realized in this respect. To gain possession of this traffic is to obtain commercial supremacy, which involves financial and all material prosperity. In view of this fact, it is not strange that the Post Master General should be so urgent in his recommendation to establish a semi-monthly steam line between San Francisco and Oriental ports.

Rough Times Ahead.—The Nevada papers anticipate that the wilderness will be scoured in every direction, next summer, for hundreds of miles by keen-eyed prospectors, and say it will be strange if some remarkable discoveries are not made before the fall. Large parties will organize and range through the wild, unknown regions lying southward, where the Indians have heretofore successfully resisted the entrance of small parties.

Stage Line from Maggie Creek to White Pine.—Hill Beachy is about to place a line of stages on between Carlin or Maggie's Creek and the White Pine District. He will use the stock and stages that were on the Idaho route between Hunter's and Winnemucca, the latter place being now the starting point for Idaho. Other lines to White Pine, from different stations on the railroad, are spoken of.

Sumac could be grown with profit in the foothills of the Sierra Nevada and on the plains. It requires neither richness or much moisture in the soil. The leaves contain a large proportion of tanuic acid, and are worth from $80 to $100 per ton. Its strength is said to be proportioned to the amount of sunshine. Suckers are planted in hills 2½ feet apart each way. Fredericksburg is one of the chief centers of the sumac cultivation in Virginia. It should yield at least a ton to the acre.

Madder yields about $150 to the acre in Italy, but it requires a rich, light soil and very laborious cultivation. The adulterations and high cost of the imported article might enable the woolen mills and dyers to pay enough to justify cultivation here.

THE CHEMISTRY OF FURNITURE.—Housekeepers do not always understand the theory of the chemical and mechanical action of different substances on articles of furniture. The substances from which furniture are chiefly exposed to injury are water, oils, alcohols, and acids. Acids act on marble, which is composed of carbonate of lime, destroying the texture of the stone—liberating the carbonic acid, and leaving nitrate of lime, or muriate of lime, or sulphate, or acetate of lime, as the case may be, in the form of a white powder. All varnished or polished surfaces of wood, on the other hand, while not injured usually by acids, are attacked by alcohol. Varnishes are composed of different gums and resins, which are generally soluble in alcohol. Many of them are made by dissolving the materials in alcohol so as to liquefy them, and then, when they are applied, the alcohol evaporates, leaving the gum or resin in a thin, even coating over the surface. If any alcoholic substance comes upon such a surface, whether it be alcohol itself, as used for lamps, or spirits of any kind, or even wine, which contains but a small percentage of alcohol, a portion of it is dissolved, and the brilliancy of the surface is destroyed. Oils will not attack either marble or varnished surfaces, and will do no injury except to naked wood or other porous substances which admit them into the pores, from which they cannot afterward be easily expelled. Water affects no substances except such as have open pores exposed, in which case it enters and causes the substance to swell; or such as are soluble in water, as glue in joints, and mucilage or gum arabic, used sometimes for attaching superficial ornaments for fancy work.

THE LAKE SUPERIOR COPPER interest feel sure of reciving protection from Congress. Five or six mines have yielded largely in quantity, but at non-paying rates, a number of smaller mines have been abandoned, and it is contended that if the proposed duties on ores of three cents a pound pure copper, and of five cents a pound on ingot is not carried, the whole mining industry is jeopardized. The Atlantic smelters have produced very little, and with a higher duty they would find it difficult to work to advantage.—*Winterhoff's Metal Circular.*

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An experienced Draughtsman and Teacher, has opened an Evening School at No. 414 CLAY STREET (same entrance as the Mining and Scientific Press Office), where he is giving thorough instructions in DRAWING to apprentices who are inclined to self-improvement. His terms are moderate and within reach of the humblest apprentice; and we are pleased to say that the enterprise is meeting with success.
1v18.tf

Professional Cards.

J. S. PHILLIPS,
MINING ENGINEER, Etc.,
Wadsworth House.....San Francisco
Having had 23 years experience in the various departments of Mining Engineering and Metallurgy, in Cornwall and America, solicits orders for the examination of Mineral Properties throughout the North and South Americas; minerals assayed or analyzed; advice for beneficiating refractory ores; Metals sold; capital procured for developing valuable ledges. 4v17tf

JOHN ROACH, Optician,
Has removed from 522 Montgomery street to
540 Washington street,
East of Montgomery.
Surveying Instruments made, repaired and adjusted
22v17-3m

J. SWYNEY,
MARINE ENGINEER,
53 Montgomery Block, San Francisco,
Is prepared to furnish General Plans, Specifications, and full detail Drawings for propeller or side-wheel steamers, iron vessels of all classes, engines, boilers, etc. Also for locomotive or stationary engines, and machinery in general. An experience of over twenty years in this profession enables us to furnish correct drawings and guarantee results. 8v17-tf

DAVID R. SMITH,
Civil and Mechanical Engineer,
Is prepared to furnish Plans, Models, Specifications and full detail Drawings for Steamers and Sailing Vessels and Machinery in general.
Montgomery Block. 13v17-3m

J. M. HAVEN,
ATTORNEY AND COUNSELOR AT LAW
Room 25 Merchants' Exchange,
27v16 SAN FRANCISCO.

RADICAL CURE —OF— RUPTURE!
Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process. 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.
DR. A. FOLLEAU
Has his studies and manufactories in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.
He has no connection with any Agency. 24v14-11ptf

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
Court Block, 636 Clay Street
SAN FRANCISCO.
2v15-1qy

American Saw Company.
EMERSON'S PATENT MOVABLE TOOTHED CIRCULAR SAWS SUPERIOR TO ALL OTHERS FOR DESCRIPTIVE PAMPHLET ADDRESS THE AMERICAN SAW CO.
MANUFACTURERS OF
EMERSON'S PATENT
Movable-Tooth and Perforated Circular Saws,
Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.
SAW-GUMMERS, SWAGES, CANT DOGS,
Etc., have established an office for the sale of the above articles, at
No. 606 Front street, San Francisco.
Descriptive Pamphlets will be forwarded to any one
5v17tf

SULPHURETS;
What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.
By WM. BARSTOW, M. D.
Published by A. Roman & Co., San Francisco.
For sale at this Office.--Price, One Dollar.
With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

ELECTROTYPE ENGRAVINGS, CUTS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State

WE ARE NOW OFFERING
OUR IMMENSE STOCK
—OF—
Fine Custom Made Clothing
—AND—
Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES
BOTH OF MATERIAL AND FINISH.
A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.
J. R. MEAD & CO.,
8v10 Cor. of Washington and Sansome streets.

THE GIANT
POWDER COMPANY
Is now prepared to fill all orders for
GIANT POWDER,
Put up in Boxes, either in Bulk or in Cartridges.
General Agents,
BANDMANN, NIELSON & CO.,
25v16-3m 210 Front street, San Francisco.

SAN FRANCISCO
Pioneer Screen Works,
JOHN W. QUICK, Manufacturer.
Removed to Vulcan Iron Works, Fremont street, between Mission and Howard, San Francisco.
Screen Punching in all its branches, at rates reduced from 25 to 40 per cent less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and figures made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.
N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

California Steam Navigation
COMPANY.
Steamer CAPITAL.....CAPT. E. A. POOLE
" CHRYSOPOLIS.....CAPT. A. FOSTER.
" YOSEMITE.....
" CORNELIA.....CAPT. W. BROMLEY
" JULIA.....CAPT. E. CONCKLIN.
Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville Colusa, Chico, and Red Bluff.
Office of the Company, northeast corner of Front and Jackson streets.
13v12 B. M. HARTSHORNE, President.

International Hotel,
JACKSON STREET
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.
THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.
Prices varying from $1 50 to $2 per day for Board and Room.
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.
Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYGANT, Proprietor.

Pacific Powder Mills.
SUPERIOR BLASTING AND SPORTING GUNPOWDER
Black Diamond, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
Hunter's Pride, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ⅛ kegs.
Pacific Mills River Shooting, in 1lb canisters.
do do do in ½lb canisters.
do do do in ¼ kegs.
do do do in ⅛ kegs.
do do do in 25lb kegs.
Pacific Mills Rifle, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ⅛ Kegs.
do do in 25lb kegs.
Blasting and Mining Powder $2 25 per keg.
Safety Fuse and Shot for sale by
HAYWARD & COLEMAN Agents.
24v15-3m 414 Front street, San Francisco.

Removal and Partnership.

Notice is hereby given, that I have removed from my old stand on Beale street, and have formed a co-partnership with Mr. A. CAMERON, for the purpose of carrying on the business of Stair-Building, Wood-Turning and Scroll Sawing. The business will be conducted as formerly at Cameron's, corner of Market and Beale streets, and also at Nos 485 and 487 Fremont street, where ample steam power and all necessary facilities have been provided for every branch of the business.

Different sizes of Redwood Balusters constantly on hand for sale. Also Spanish Cedar, Walnut and California Laurel.

15v17-3m N. P. LANGLAND.

Enterprises and Developments.

A SPRING BED factory has been established in Sacramento.

ONE MILLION feet of fencing is sold in San Diego per week.

NEW gas works have been erected at Helena, Montana.

EIGHT HUNDRED gang plows have been sold at Stockton during the past season.

THE Suisun and Fairfield Water Company recently declared a dividend of $4.50 per share.

GOLD FISH.—A lucrative, if not very important business, is done in a small way in the importation of gold fish from the Sandwich Islands. They are easily raised near Honolulu by a French enthusiast in the business, and brought over in barrels aud tiu caus, with the loss of a very small percentage.

GRANULATION OF CALIFORNIA SORGHUM. A notable experiment with sorghum has been made this year near Alviso, on 120 acres planted on contract with J. H. Purdy in June—too late to get all the moisture needed. Thus the crop was a partial failure, but the quality of the syrup obtained is excellent; it granulates readily, and has a fine flavor. The experiment will be repeated this year under more favorable circumstances.

CHESTNUTS, WALNUTS AND PECANS.—Childs & Co., of Los Angeles, have succeeded in growing the Italian chestnut, having trees now twelve years old, producing nuts of immense size and fine flavor. Small trees can be had of them for transplantiug.

The pecau, a southern forest tree, even more valuable than the chestnut for its nuts, is also grown by Childs & Co., and the Americau chestnut aud Western walnut—unlike the California black walnut, and superior to it—are also growing thriftily in their garden.

MANUFACTURES IN THE INTERIOR—WOOLEN MILLS.—The Marysville *Appeal* regards the future of that city as depeuding upon its maunfactures. It urges the establishment of another woolen mill there, sayiug that the present one has more orders than it can fill. There are, it says over 500 woolen mills in six States of Ohio, Michigan, Indiana, Wisconsin, Iowa, and Minnesota. There are but five or six woolen mills in operations on this coast, yet Eastern and foreign manufacturers do not feel the least check to their shipments. Califoruia, Nevada, Oregon, etc., it asserts, will soou afford a market for fifty woolen mills.

Oroville, Sacramento, aud Merced Falls now have their woolen mills, aud another is proposed in Tulare County. The Visalia *Delta* says: "Such an enterprise will pay better in Tulare County than in any other section of California. It will not only pay large profits, but it will create a home market for our wool, which is greatly needed. A capital of $20,000 or $30,000, raised by subscription in shares, would start a fair woolen mill, aud would prove one of the best payiug iuvestments in the State." The Butte County *Record* prophecies that Oroville will be, at no distant day, the Lowell of the Pacific Coast.

Pacific Mail Steamship Co's
STEAMSHIPS FOR
NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, counecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK:

On the 9th, 14th, 22d and 30th of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co's steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. M. S. S. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR JANUARY, 1869.

The following Steamships will be dispatched on dates as given below:

January 6th—SACRAMENTO.. .....Capt. W. H. Parker, Connecting with ALASKA, Capt. Gray.
January 14th—MONTANA..... ....Captain A. We Connecting with RISING STAR, Capt. King.
January 22d—CONSTITUTION.....Capt. Wm. H. Hudson Connecting with HENRY CHAUNCEY, Capt. Connor.
January 30th—GOLDEN CITY.....Capt. W. F. Lapidge, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—it desired an amount of $50 to $20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship GREAT REPUBLIC, Capt. S. Doane, will be dispatched on MONDAY, January 4th, 1869, at 12 o'clock M., from wharf corner of First and Brannan streets, for HONGKONG, connecting at Yokohama with the steamer COSTA RICA for Shanghai.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

Machinists and Foundries.

PALMER, KNOX & CO.,
Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.
WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Knox's Amalgamators,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13vt0qy-tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.
Pacific Iron Works.
First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:
STEAM ENGINES,
Horizontal and Vertical, for either Stationary or Marine use.
BOILERS—High and Low Pressure,
Pump, Pipe and Sheet Iron Work of every kind.
Quartz Mill Work,
Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.
Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Halsbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.
Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Valuable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.
GODDARD & CO.
San Francisco, May 1, 1868. 18v16tf

WILLAMETTE IRON WORKS,
PORTLAND, OREGON.
Steam Engines, Boilers,
SAW AND GRIST MILLS,
MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.
Corner North-Front and E streets,
18v13-1y One block north of Couch's Wharf.

Globe Iron Works,
STOCKTON, CAL.
KEEP & BARGION,
MANUFACTURERS OF
Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,
High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.
13v13tf

J. NEWSHAM. J. BIGWOOD.
SOUTH BEACH IRON WORKS,
Near corner of King and Third streets, San Francisco.
MARINE ENGINES,
AND ALL KINDS OF
MACHINERY FORGING.
All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

CALIFORNIA BRASS FOUNDRY.
No. 125 First street, opposite Mlana,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Slip and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.
PRICES MODERATE.
J. P. GALLAGHER. J. H. WEED V. KINGWELL
9v13-1y

Miners' Foundry
—AND—
MACHINE WORKS
Nos. 245 TO 255 FIRST STREET,
San Francisco.
HOWLAND, ANGELL & CO.,
PROPRIETORS,
Manufacturers of Machinery for
QUARTZ MILLS. FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS
Steam Engines of all Kinds.
Amalgamators of all Kinds.
MINING PUMPS, HOISTING WORKS
OIL WELL TOOLS, ROCK BREAKERS,
—AND—
Machinery and Castings of all kinds, either of Iron or Brass.
Boilers and Sheet Iron Work in all its Branches.
Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.
Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the
HICKS ENGINE,
The most compact, simple in construction, and durable, of any Engine in use.
W. H. HOWLAND, H. B. ANGELL,
13v14-qr CYRUS PALMER.

FULTON
Foundry and Iron Works.
HINCKLEY & CO.,
MANUFACTURERS OF
STEAM ENGINES,
Quartz, Flour and Saw Mills,
Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.
N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,
BOILER MAKERS
AND GENERAL MACHINISTS,
Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular Boilers, with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.
Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.
Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.
To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.
Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care
To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas, but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

UNION IRON WORKS,
Sacramento.
WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
CROSS' PATENT BOILER FEEDER,
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old Cylinders, manufactured to order.
Front Street, between N and O streets,
14v11 SACRAMENTO CITY

THOMPSON BROTHERS,
EUREKA FOUNDRY,
129 and 131 Beale street, between Mission and Howard, San Francisco.
LIGHT AND HEAVY CASTINGS,
of every description, manufactured 24v16qr

JAMES MACKEN,
COPPERSMITH.
226 Fremont st., bet. Howard & Folsom.
All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.
Repairing promptly and neatly attended to. 13v11

G. T. PRACY.
MACHINE WORKS,
NOS. 109 and 111 MISSION STREET,
Between Main and Spear.

New and second-hand
Engines and Boilers,
FOR SALE.
Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.
MANUFACTURER OF
Lathes, Drills,
And MILL MACHINERY of every description.
PRACY'S
New and Improved
STEAM ENGINE
REGULATORS,
The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.
F. A. HUNTINGTON'S
Shingle Machines
on hand.
Particular attention paid to Repairing.
All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

THE RISDON
Iron and Locomotive Works.
Incorporated, April 30, 1868. Capital, $1,000,000.
Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.
Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.
Steam Engine Builders, Boiler Makers,
MACHINISTS AND FOUNDRYMEN.
All work in their line attended to with promptness and dispatch.
Directors:
S. F. Butterworth, Chas. E. McLane,
Lloyd Tevis, John N. Risdon,
Jas. Pollock, Joseph Moore,
Ben. Holladay,
JOHN N. RISDON, President.
Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 24v17-qy

Phœnix Iron Works.

JONATHAN KITTREDGE, Proprietor,
Nos. 18 and 20 Fremont street, near Market,
MANUFACTURER OF
Fire-Proof Doors, Shutters,
Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;
BANK VAULTS AND MONITOR SAFES,
FORGING AND MACHINE WORK.
Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the
1v17tf United States

CITY IRON WORKS COMPANY.
CLERC & CO.,
IRON FOUNDERS,
Steam Engine Builders and Makers of all kinds of Machinery,
6v16qr No. 28 Fremont street, San Francisco.

DR. NESTELL'S
LUNG INSTITUTE,
(Branch of the N. Y. Lung Institute)
No. 510 SUTTER STREET,
Between Mason and Powell Streets, San Francisco,
For the special Treatment of all Diseases of the HEAD, THROAT, LUNGS, AND CHEST, by the Inhalation of Medicated Vapors at the natural temperature of the air, etc.
Earnest attention is solicited to this Rational Method of Treatment, which transmits the remedies, in the form of vapor, directly to the seat of ill-ease, instead of by the round about way—through the medium of the stomach—and which is conceded to be the only reliable means whereby an alleviation and cure may be expected. My system of Inhalation, now well known throughout the United States and Canadas, and much of Europe, where thousands—many of them far advanced—have received, claims the profoundest approval of the medical profession, and the timely and candid consideration of those afflicted with these the most devastating of all earthly maladies.
Patients attended at the Institute, daily, from 9 A. M. till 4 P. M.
Invalids at a distance, on writing their case, can receive the remedies by Express.
Special attendance out of the city will be charged commensurately with the time and distance occupied.
All communications must be addressed to
D. D. T. NESTELL, A. M., M. D.,
Lung Institute,
No. 516 Sutter Street, San Francisco,
21v17 3mos. California.

Small Pox.

We have been shown by Wm. Zelner, the best and most convenient and portable apparatus containing Chlorine, for rooms, which we consider the best disinfectant out, and should advise all housekeepers not to be without one. Price $5, complete; to be had, with full directions, at WM. ZELNER'S German Drug Store, 18 Geary street. 25v17-3m

Fluctuations in Leading Mining Shares for the past Six Months.

NAME OF COMPANY.	July 16th.	July 30th	July 30th	Aug. 16th.	Aug. 20th.	Aug. 30th.	Sept. 10th.	Sept. 20th.	Sept. 30th.	Oct. 10th.	Oct. 20th.	Oct. 30th.	Nov. 10th.	Nov. 20th.	Nov. 30th.	Dec. 10th.	Dec. 21st.	Dec. 30th
Gould & Curry.....per ft.	101	104	105	91	88	106	94	84	109	110	96	89	70	82½	108	106	110	95
Ophir.....	15¼	22½	21	20¾	32	21	18	17	17	19¾	19	19	19	23	34	36	40	38
Savage.....	130	138½	132½	129	113	118½	91¾	90	105	110½	82½	75	60	70½	75	74	84½	78
Chollar-Potosi.....	201	181	133	178	164	180½	153	149	158	135	146½	135¼	126	144½	175	150	158	150
Hale & Norcross.....	71	65	79	74½	77	93	83½	88	49	49½	44	41½	38½	63	76	78	64	46
Sheba.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Dancy.....	7¼	....	3½	....	....	....	3¼	6¼	6½	5	6	4	5	6¼	5	5	4½	3¾
Wide West.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Bullion.....	16	23	21	17½	22	20	15	16	16½	15	....	14	12	16	18	20	18	16
Real del Monte.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
El Dorado.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Overman.....	69	82	78	74	110	88	83½	81	83	89½	81¾	70¾	45	46	51	49	90	85¾
Sierra Nevada.....	27	29	32	38¾	37	27	27	20	16¾	20	18¾	29	22¾	16	....	....	....	....
Yellow Jacket.....	1,240	1,220	1,185	1,135	1,220	1,100	1,370	1,190	1,000	1,080	1,090	1,090½	9 5	1,210	1,705	1,390	1,305	1,366
Amador.....	225	225	265	264	237½	212½	2 3	210	230	250	250	267	215	217¼	227¼	231	241	239
Lady Bryan.....	17	23	14	15	15	21	16	12	06	14	10	10¾	10	6	19	18	20	17
North American.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Baltimore American.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Mejunes.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Sacramento.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
White & Murphy.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Imperial.....	134	118	103	111	118¾	111	108	97	103	112	112	101	89	100	136	117	123	111
Crown Point.....	88½	94	88	87½	87	84	78	83	44¾	47	15	44¾	43	34	41	49	53	53½
Belcher.....	17¾	15¾	11	12¾	14	13	12	12	15	13	14	12¾	9	12	14	13	15	14
Alpha.....	47¾	44¾	41	51	50	50½	51	51	45¾	47	47	42¾	29	27	30½	28	38	37
Empire M. and M. Co.....	....	135	121	115	115	110	115	....	101	100	....	105	....	93	114	115	118	130
Confidence.....	34	38	35	....	....	35	....	30	....	....	....	....	....	28	60	37	40	38½
Justice and Independent..	8	6	5	....	....	....	....	....	6¾	....	....	4¾	....	3	....	....	8	8
Kentucky.....	25	21	20	19	19	19	12	11	15	11¾	....	14	11	17½	24	20	25	25¾
Kentuck.....	39¾	38¾	38¾	35½	450	425	411	295	288	262	280	262½	180	247½	280	219	257½	255
Gold Hill Q. M. Co.....	85	70	90	65	....	61	62	....	....	....	....	50	....	....	62	50	80	70
Segregated Belcher.....	10	13¾	11¾	11¾	13¾	11¾	10¾	9	9¾	9¾	8¾	8¾	5¾	5¾	7¾	8¼	9	8¾

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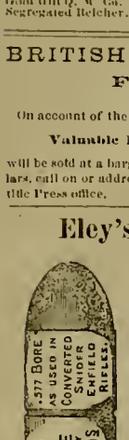

These Cartridges are made in three sizes, viz: .577 (or Snider Enfield) bore; .500 (or half-inch) bore; and .451 (or small) bore.

These Cartridges have been adopted, after careful comparative trials against all other descriptions, by HER MAJESTY'S WAR DEPARTMENT, as the Standard Rifle Ammunition for the BRITISH ARMY, and are not only used exclusively for the Snider Rifle, but are adapted to all other systems of military BREECH LOADING RIFLES.

They are the cheapest Cartridges known, carrying their own ignition, being made wholly of metal, are water-proof and unperishable in any climate.

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PIN CARTRIDGES for Lefaucheux Revolvers of 12 m, 9 m, and 7 m, bore.

CENTRAL FIRE and PIN FIRE CARTRIDGES, for all sizes of Guns, Rifles and Revolvers.

Double Water-Proof and E. B. Caps. Wire Cartridges for killing game at long distances. Felt Waddings to improve the shooting of guns; and every description of Sporting and Military Ammunition.

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AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
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FALKENAU & HANKS,
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LOUIS FALKENAU, State Assayer.

☞ Particular attention paid to the Analysis of OBES, MINERALS, METALS, etc. 8v17

New Mining Advertisements.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of January, 1869, an assessment of two dollars ($2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary

Any stock upon which said assessment shall remain unpaid on the fifteenth day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
Office, 37 New Merchants' Exchange, California street, San Francisco. jan16

North American Wood Preserving Company.

Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the fifteenth day of January, 1869, an assessment of one ($1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 430 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.
Office, 430 Montgomery street, San Francisco. jan16

Mining Notices--Continued.

Alamo Gold and Silver Mining Company.—Location of the Mine, Lyon County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment (No. 12) levied on the twenty-fifth day of November, 1863, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
R Perry	95, 97, 98, 99, 100	410	$102 50
W P Nudd	32, 33	20	5 00
Names.	No. Certificates.	No. Shares.	Amount
C & F Kohrer	43, 44, 45	50	12 50
G Otto		8	2 00
G Wetzler		30	7 50
H F Rice	78, 79, 81, 83	100	25 00
R W Thompson	88, 101	35	8 75
J Pierce		50	12 50
O S Pierce		94	12 50
A H Phelps	101, 105	35	17 50
J F Smith		5	1 25
W Pickett	121, 122	50	12 50
G Reed		5	1 25
A P Everett	150, 221	40	10 00
A B Forbes	132	25	6 25
R Strachan	133, 205	25	6 25
Jas Merpheus		25	6 25
F Marums	135, 144	20	5 00
P Ring	136, 149	22	5 50
I W Raymond	137	20	5 00
M Van Iokron	141	40	10 00
H Schmeidell	143	10	2 50
G M Burke	145, 146	25	6 25
W K Flint	156, 157, 200	65	16 25
J A Wright	158	25	6 25
T D White	161, 193	55	13 75
Robt Irwin	163	10	2 50
H J Underhill	164, 165, 166		
	167, 168	10	2 50
A P Stanford	173, 200	150	37 50
J T Haley	180	15	3 75
W E Wood	184	25	6 25
E T Pease	188	10	2 50
C H Sherman	191, 194	65	16 25
J P Dow	196	5	1 25
L H Brooks	195	2	50
F Lippin	197, 204	25	6 25
S Hubbard	198	5	1 25
L Thompson	199	10	2 50
Tabor & Hill	28, 29	20	5 00
W R Mowry	208	20	7 50
J Fuller	210	5	1 25
W A Cameron	211	6 5-6	1 70
J G Fallon	212	10	2 50
H Roscherand	214	10	2 50
G H Ricker	213	5	1 25
F A Fresiers	225, 2.6	25	6 25
C H Haley	220	50	12 50
D M Hawley	222	50	12 50
A N Humphrys	223	9 5-6	2 46
E P Flint	103, 185	35	8 75
E Slinel	224	10	2 50
J Hill	228	10	2 50
J Tabor	229	10	2 50
J Covington		7	1 75
Cochran & Covington		17 1-6	4 46

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of November, 1863, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Saturday, the sixteenth day of January, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. POPE, Secretary.
Office, No. 419 California street, (Room No. 5) San Francisco. jan2

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-eighth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Baster, M	105	2	$4 00
Bremer, G F	108	1	2 00
Billmer, John	261	3½	6 67
Brown, Thomas	215	16⅔	33 33
Brown, Thomas	217	16⅔	33 33
Borris, B F	293	12	24 00
Foster, C L	704	2	4 00
Goold, Chas	287	5	10 00
Houck, J	292	17	34 03
Hoak, C	202	2	4 00
Haley, C S	213	10	20 00
Kleinsorge, Wm	101	1	2 00
Kleinsorge, Wm	258	2½	5 00
Kleinsorge, Chas	102	1	2 00
Kleinsorge, Chas	259	2½	5 00
Kleinsorge, Chas	260	3½	6 67
Malpard, G H	169	3	6 00
Mallard, G H	302	3	6 00
Mallard, G H	305	3	6 00
Mohr, L B M	140	1	2 00
Miller, John	188	8½	16 67
Randall, Robt B	271	10	20 00
Randall, Robt B	272	10	20 00
Randall, Robt B	273	10	20 00
Randall, Robt B	274	10	20 00
Randall, Robt B	275	10	20 00
Randall, Robt B	276	10	20 00
Randall, Robt B	277	12½	3 38
Randall, Robt B	294	16	32 00
Randall, Robt B	307	16⅔	33 33
Randall, Robt B	308	6⅔	11 33
Randall, Robt B	309	25	50 0
Rice, A W	53	2	4 00
Roth, S	109	3	6 00
Reeve, G B & Co	148	3½	6 67
Reeve, G B & Co	149	3½	6 67
Reeve, G B & Co	150	3½	6 67
Reeve, G B & Co	151	3½	6 67
Reeve, G B & Co	152	3½	6 67
Reeve, G B & Co	278	9¾	19 00
Reeve, G B & Co	269	15	30 00
Steele, H	49	50	100 00
Steele, H	204	4	8 00
Steete, Anna	159	2	4 00
Suerkrap, John	100	2	4 00
Suerkrap, John	220	6	12 00
Suerkrap, John	221	6	12 00
Stose, C	103	1	2 00
Schacht, H W	113	2	4 00
Schenck, E T	300	3	6 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-eighth day of October, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by R. R. Rollins, auctioneer, at salesroom, 522 Market street, San Francisco, on Thursday, the twenty-first day of January, 1869, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. COOLIDGE, Secretary.
Office, Room No. 40 Merchants' Exchange Building, California street, San Francisco. jan2

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
P Calhon	186	10	$25 00
Wm H Cleveland	318	25	62 50
Mrs Ann G Cummings	255	25	62 50
Paul H Foster	91	100	250 00
Jas H Foster	141	10	25 00
Jas S Foster	142	20	50 00
Jesse Gelb	73	25	62 50
Jesse Gelb	74	25	62 50
Jesse Gelb	75	20	50 00
Jesse Gelb	76	10	25 00
Jesse Gelb	78	10	25 00
Jesse Gelb	79	5	12 50
Jesse Gelb	80	5	12 50
S R Harris	294	50	125 00
S R Harris	294	50	125 00
S R Harris	318	50	125 00
Jas Kellogg	175	50	125 00
A J Jeghers	3	5	12 50
A J Jeghers	4	5	12 50
A J Jeghers	5	5	12 50
A J Jeghers	6	5	12 50
A J Jeghers	7	5	12 50
August Lindorf	241	10	25 00
Dan'l McLeod	290	90	225 00
Jno R Mason	128	10	25 00
Camillo Martin	267	20	50 00
Ford H Rogers	320	65	162 50
Louis Vesarla	319	25	62 50
Louis Vesarla	320	25	62 50

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on the thirtieth day of December, A. D. 1868, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.
Office, No. 414 Montgomery street, San Francisco. dec5

POSTPONEMENT.—The above sale is hereby postponed until Thursday, the twenty-eighth day of January, 1869, at the same hour and place. By order of the Board of Trustees.
jan2 O. D. SQUIRES, Secretary.

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fifteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Curtis Palmer	148	10	$10 00
William Brown	11	5	5 00
William Brown	232	10	10 00
William Brown	233	10	10 00
William Brown	234	10	10 00
William Brown	35	10	10 00
William Brown	240	3	3 00
William Brown	276	25	25 00
William Brown	317	45	45 00
Brown & Kent	15	10	10 00
Abigail Brown	20	5	5 00
Abigail Brown	207	5	5 00
M Nolan	266	10	10 00
Daniel Davidson, endorsed to James Wilson	46	10	10 00
George Patterson	53	5	5 00
James S S Robinson	56	10	10 00
F M Ellis	60	1	1 00
H D Scott	71	55	55 00
John Sanquet	183	15	15 00
M Curran	not issued	10	10 00
B Curran	not issued	10	10 00
John Bagnell	77	7	7 00
Matthew Davidson	79	12	12 00
Patrick Carroll	224	10	10 00
P M Mellin	221	5	5 00
Edward Campbell	181	10	10 00
Chas B Montague	120	25	25 00
A J Davis	127	10	10 00
Lott Mulcahy	227	5	5 00
Thomas Fay	58	5	5 00
David M Short	134	10	10 00
Chas Mayer	135	10	10 00
Benjamin O Levy	137	5	5 00
Lazard Goldchaux	139	10	10 00
Lazard Goldchaux	160	5	5 00
Lazard Goldchaux	162	5	5 00
Lazard Goldchaux	223	5	5 00
Lazard Goldchaux	230	5	5 00
P Cunningham	156	5	5 00
P Cunningham	174	5	5 00
Michael Gudish	152	25	25 00
Frank Mahon	155	25	25 00
Thos McCullough	166	10	10 00
Stephen McGillan	161	5	5 00
Stephen McGillan	165	5	5 00
P J McMahon	170	25	25 00
P J McMahon	183	25	25 00
Jas Barrett...not issued...bal	189	25	125 00
Elizabeth Curran	194	10	10 00
Elizabeth Curran	195	10	10 00
N G Briggs	209	10	10 00
F M Moore	210	20	20 00
C B Gregory	211	20	20 00
Henry Eno	212	20	20 00
Henry Eno	278	25	25 00
David Lovell	214	10	10 00
Jacob Warteusleben	225	1	1 00
M G Shove	264	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Saturday, the twenty-third day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CURTIS PALMER, Secretary.
Office, No. 87 Stevenson street, between First and Second streets, San Francisco. dec24

Patrucina and Dolores Silver Mining Company, Guazapares District, State of Chihuahua, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the ninth day of December, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
James Lang	125	5	$10 00
L H Perry	11	10	20 00
L H Perry	15	5	10 00
L H Perry	202	55	110 00
R Hussing	213	5	10 00
R Hussing	52	5	10 00
S S Emery	184	5	10 00
John Donald	212	10	20 00
W H Ryan	93	15	30 00
F S Ellmaker	180	35	70 00
P J O'Connor	146	60	120 00
James Doyle	192	5	10 00
Catherine Martin	215	5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of December, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, Cal., on Monday, the twenty-fifth day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. B. GIFFORD, Secretary.
Office, N. E. corner of Second and Howard streets, San Francisco. jan9

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of December, 1868, an assessment of seven dollars and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of January, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of February, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary
Office, 318 California street, up stairs, San Francisco. d26

San Francisco and Castle Dome Mining Company. Location of Works: Castle Dome County, Arizona Territory.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fifth day of November, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm Butterfield	1 to 6 inc	600	$18 00
Wm Butterfield	13	26	78
Wm Butterfield	10	100	10 00
Wm Butterfield	11, 12 2-3-ea	40	20
Wm Butterfield	8, 9 100-ea	200	6 00
Wm Butterfield	148	34	1 02
Jas Devoe, Jr	27	10	30
Jas Devoe, Jr	28 to 32 inc	500	15 00
G W Bryant	40, 41, 42 5-ea	15	45
G W Bryant	43	10	30
G W Bryant	45 to 48 inc	100	3 00
G W Bryant	49	50	1 50
G W Bryant	51	10	30
G W Bryant	164	40	1 20
G W Bryant	165	600	18 00
J T Butterfield	163 to 171 inc	100	3 00
J T Butterfield, unissued		900	27 00
N S Knowlton	183	400	12 00
N S Knowlton	191	50	1 50
Alfred Stebbins	188	500	15 00
Robert Apple	161	250	7 50
Robert Apple	162	250	7 50

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of Dam & Gladding, auctioneers, No. 320 Montgomery street, on the twelfth day of January, 1869, at the hour of 1½ o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. R. SMITH Secretary.
Office, No. 428 California street, 3d floor, San Francisco. jan2

POSTPONEMENT.—The above sale is hereby postponed until Wednesday, the twentieth day of January, 1869, at the same hour and place. By order of the Board of Trustees.
jan16 A. R. SMITH, Secretary.

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of November, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alphens Bull	2	218	$109 00
E B. Mott, Jr	6	150	75 00
Geo Mohrel	10	10	5 00
Geo Mohrel	11	10	5 00
Geo Mohrel	12	10	5 00
Geo Mohrel	13	5	2 50
Geo Mohrel	14	5	2 50
Jas P Wheeler	29	10	5 00
Jas P Wheeler	30	50	25 00
Jas P Wheeler	31	50	25 00
Jas P Wheeler	32	50	25 00
Jas P Wheeler	33	50	25 00
Joe Tall	34	20	10 00
L J Flint	37	20	10 00
I L Requa	38	50	25 00
I L Requa	39	50	25 00
I L Requa	40	50	25 00
I L Requa	41	50	25 00
J L Van Bokkelen	48	4	2 00
L A Booth	49	50	25 00
L A Booth	50	54	27 00
L A Booth	54	100	50 00
J Biggs		4	2 00
McFarland		16	8 00
Sarah Snyder		32	16 00
N M Baxter		20	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. C. Merrill & Co., auctioneers, No. 204 California street, San Francisco, California, on Saturday, the second day of January, 1869, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

ENOS TAYLOR, Secretary.
Office, No. 226 Clay street, San Francisco. dec19

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the thirtieth day of January, 1869, at the same hour and place. By order of the Board of Trustees.
jan9 ENOS TAYLOR, Secretary.

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to the public to warrant publication.

Machinery.

VARNEY'S

PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is throwu to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the orc is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

IMPORTANT TO WOOD WORKERS.

GEAR'S COMBINATION

PATENT

Variety Molding and Planing

MACHINE.

THIS STANOARD MACHINE IS INDISPENSABLE IN any establishment working Wood by machinery. Recent great improvements render it complete for

All kinds of Irregular and Straight Work

in hard or soft wood, Straight, Waved, Circular and Elliptical Moldings, Spiral Work, and all Irregular Forms, thus saving to the mechanic the cost of several machines to effect the purposes accomplished by this alone. It does not stop at cutting the edges and sides of timber, but operates equally well upon the ends, cutting them into any required form with the same facility that it does the sides. Any shop without it lacks one of the most USEFUL AND PROFITABLE TOOLS now used. It is worthy of the attention of all HOUSE, CARRIAGE, SHIP, BOAT and CAR BUILDERS, FURNITURE and CABINET MAKERS, MILL PROPRIETORS, PATTERN MAKERS, etc., and of all others who desire to make a profitable business from a small investment. Every machine is thoroughly tested at the manufactory and warranted. Further information furnished on application. FULLER & CO.,

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

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India Rubber Cement and Paint

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TIN, IRON AND METALLIC ROOFS,

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SHIPS, STEAMBOATS, STAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

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Corner First and Mission streets, or Box 2,077

3vt3f SAN FRANCISCO.

GLASGOW

Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

2tv16-3m W. McCRINDLE, Manage.

Removal.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

10v14qr

Notice to Miners,

Well-Borers and Water Companies.

M. PRAG IS NOW PREPAREO TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

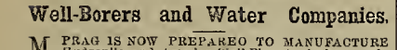
M. PRAG,

8v13-1y Stove Store, No. 1 Clay street, below Davis.

PACIFIC FILE WORKS,

No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.

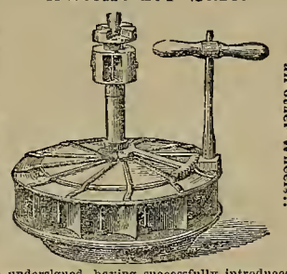


Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

3v17-3m **T. G. DURNING & CO**

Patent for Sale.

The Best Wheel in the World!



Triumphant in every Test with all other Wheels!!

The undersigned, having successfully introduced the

Leffel American Double Turbine Water Wheel

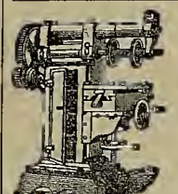
On this Coast, and owning the Patent for the whole Pacific Coast, viz: The States of California, Nevada and Oregon, and the Territories of Arizona, Washington, Idaho, and Western Montana, wishes now to dispose of the Patent, with stock of Wheels on hand, Patterns, etc., etc.

A Company organized and prepared properly for the construction of these Wheels, to supply this Coast and all tributary countries, could make the business immensely profitable.

My object in selling is to enable me to devote myself exclusively to my profession. A. MYERS.

P. S.—If not sold previous to February 15th, then I would enter into an arrangement to manufacture by paying royalty. Address Rev. A. MYERS, Portland Oregon.

26v17-1m



Standard Milling Machine.

Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,

OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

CALIFORNIA TOOL WORKS,

Blacksmith and Machine Shop,

HAS REMOVED

To 143 Beale St., bet. Mission and Howard,

SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Imported Tools, if too hard or soft, re tempered to give satisfaction. REAPER AND MOWING KNIVES; complete sections always on hand, or will be made at the shortest notice. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to ☞ All work warranted. Prices reasonable.

21v17-qy **J. WEICHHART, Proprietor.**

Portable Engines.

The Swamscot Co's (warranted equal to any manufactured, may be seen in use in this city), PORTABLE and STATIONARY STEAM FIRE ENGINES, STEAM PUMPS and ROTARY PUMPS, and WOOD-WORKING MACHINERY of every description, at Eastern prices. Address W. O. M. BERRY & CO., 511 California street, San Francisco.

25v17-3m

HO TEAMSTERS!

CONTINUE TO

USE HUCKS & LAMBERT'S

CELEBRATED

H & L Axle Grease,

To which you have given so decided a preference for the last

FOURTEEN YEARS,

It is the only reliable article

IN THE MARKET

Every care will continue ts be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.

☞Be sure and ask for the H & L brand, and see that the

TRADE MARK H & L

IS ON THE COVER OF THE PACKAGE

NONE OTHER IS GENUINE.

FOR SALE IN EVERY STATE IN THE UNION.

The Chili Exposition.

THE UNDERSIGNED WOULD CALL THE ATTENTION of the manufacturers of California to the National Exposition to be held during the coming spring in Valparaiso, Chili, next to California, is the most important country on the Western Coast of America. And this Exposition cannot fail to create a demand for our staple manufactures, if they are well represented. The writer has resided for some years in Chili, and is familiar with its people, business and languages, is a practical mechanic, and proposing to visit the Exposition, offers to take charge of machinery or other material that parties may wish to send thither, and pledges himself faithfully to bring before the public of Chili their respective merits. He can be seen daily, at his office, No. 49 Montgomery Block. Prompt action is necessary.

DAVID R. SMITH,

Civil and Mechanical Engineer.

REFERENCES—Hanscom & Co. (Etna Iron Works); A. S. Hallidie (President Mechanics' Institute); Lynch & Andrade.

San Francisco, Novemb'r 21st, 1868. 34v17-tf

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL.

BARTLING & KIMBALL,

BOOKBINDERS,

Paper Rulers and Blank Book Manufacturers.

505 Clay street, (southwest cor. Sansome),

15v12-3m SAN FRANCISCO.

JOHN DANIEL,

(SUCCESSOR TO O. GORI)

MARBLE WORKS,

No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs

Etc., On hand and Manufactured to order.

☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

Palmer's Patent

ARTIFICIAL LEG,

Manufactured in Philadelphia, Penn.

JARVIS JEWETT, AGENT.

218 Montgomery Street, San Francisco. 10v8-1m

J. M. STOCKMAN,

Manufacturer of

PATTERNS AND MODELS,

(Over W. T. Garratt's Brass Foundry,

S. E. Corner of Mission and Fremont sts.,

6v14tf SAN FRANCISCO.

J. F. PAGES,

SEAL ENGRAVER,

AND LETTER CUTTER,

Brass and Steel Stamps and Dies, 522 Montgomery street, San Francisco. Orders by express promptly attended to.

6v16

DESKS AND OFFICE FURNITURE.

JOHNSON & BEST,

Manufacturers of all kinds of

Desks and Office Furniture,

717 Market street, near Third.

Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

LOOK TO YOUR ROOFS!

Pacific Concrete Company,

No. 622 Clay street,

Factory on Kingstreet, between Third and Fourth street.

New roofs covered and leaky roofs repaired, in thorough and substantial manner, promptly and at very reasonable rates. Proprietors of Eagan's Patent. 18v17tf

Fire and Marine.

Union Insurance Company,

OF SAN FRANCISCO.

Nos. 416 and 418 California Street.

Cash Capital (U. S. Coin).....$750,000

THE CALIFORNIA LLOYDS

Having consolidated with the Union Insurance Company, January 1, 1866, are now prepared to effect

Marine as well as Fire Insurance,

upon the most favorable terms.

☞Losses promptly and equitably adjusted and paid in Gold Coin.

GUSTAVE TOUCHARD, President.

CHARLES D. HAVEN, Secretary.

GEO. T. BOREN, Surveyor. 21v16-1amtf

PATENT

Boiler Scraper and Tube-Cleaner.

IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

Turbine Water Wheels.

[Continued from page 1.]

The Jonval, Lind and Tyler turbines, (French, California and New Englaud inventions respectively,) furnish the highest percentage of absolute power in the order named, and are cheap in proportion to the power furnished in the reverse order. Both the Lind and Tyler are central discharge wheels, the water feeding from the periphery and dischargiug in the center. The Leffel wheel is used considerably in the East; it resembles the Jonval. The Belden is a central discharge wheel similar to the Tyler, but not as good. The Scotch turbine receives its water in the center and discharges in the periphery, like the reaction wheels mentioned below.

The hurdy-gurdy, resembliug the Swiss turbiue, is a very simple tangental turbine, much used in the gravel miues for crushing cemeut, pumping and prospecting, as it can be fixed on the end of a cam shaft, aud driven at once with the hydraulic hose-pipe.

Water wheels have been worked by the Englishman Fairbairn to 93 per cent of the absolute power in the falling water, but it is safe, ordinarily, in reckoning out the horse power, to estimate the practical efficiency at 55 to 60 per cent.

The principal objection to turbines is that gritty, muddy water wears them out. Over-shot water wheels suffer injury from standing still, and they cannot be used to advantage over 40 feet in diameter.

Reaction wheels are those working on the principle of Mattieson's hydraulic crane, or the "Barker mill," invented in the 17th century. Whitlow's Scotch turbine is on the same principle. They are adapted to a still smaller stream with greater fall, than the ordinary turbines, and will afford 50 per cent of the absolute power in the water used.

The water engine proper, is a valve machine which works precisely like a steam engine, with a column of water as the operating agent, in the place of the steam. A toy engine of this kind is in operation in one of the churches of this city, where it is used to drive the bellows of an organ. The water engine is much used in the Saxon and Bohemian mines, where they are of colossal size, being generally employed to do the pumping, whereby the falling of a streamlet from one level to another, underground, is made use of to pump the waters from below up to the adit level. At Joachimsthal the water engine is used also for hoisting. The principal advantage claimed for it is that it never wears out; though the leather of the valves is apt to be attacked by acid waters. Tomlinson describes it in his Encyclopedia of the Useful Arts.

Of the available water power in the foothills of the Sierra,—within a distance north and south of 500 miles which has more than twenty large rivers falling at least 6,000 feet in 70 or 80 miles,—Cronise, in his *Natural Wealth of California*, says:

"To state it as being equal to the force exerted by 500,000 horses would be to keep well within bounds. Already nearly 200 quartz mills, over 50 flour, and 150 saw mills, are driven by such inconsiderable portions thereof as have been diverted for this purpose. If all the water power existing in the New England States were added to that of New York, New Jersey, and Delaware, it would scarcely exceed that still running to waste down the side of the Sierra."

On the Truckee, at its lowest stage, according to a rough estimate by Mr. Scott, of the Union Foundry, there is available about 1,000-horse power per mile. There being 70 miles, having an average fall of 45 feet per mile, the Pacific Railroad and Nevada have at their service not less than 70,000-horse power in that stream alone.

THIS year for the first time, so far as known, the basket willow grown in California has been put to use.

COLORING EARTHS.—A correspondent from the Olmstead paint mines in Sonoma County, taking exception to our article quoted from Ross Brown's "Mineral Resources," etc., on account of its omission of that important development, says:

We have been working our paint mine, more or less, for two years, and have distributed our colors over Sonoma County, and several tons in San Francisco, nearly a ton in Sacramento, also in San Luis Obispo; and we have had our paints on exhibition at three fairs—at the Sonoma County Fair, Mechanics' Institute Fair, San Francisco, and the State Fair, at Sacramento—and been awarded a premium at each place; and all those, whether painters or paint dealers, that have examined our paints, tell us that they are the first genuine fine paints they have seen, of California production. Mr. J. D. Oliver, of San Francisco, on examining our paints, said that all the California paints he had seen before were too coarse, but ours is fine enough; and that is the question raised by all good judges that have used or seen our native paints and colors.

Olmstead's paints were spoken of in the PRESS, in connection with the Mechanics' Institute Fair.

THE FIRST NOTICE AT THE EBERHARDT MINE.—The following curious document is said to have been posted at the Eberhardt mine:

White Pine District, Aug. 5th, 1867: Know all men (or one women, for then all will know), that the undersigned, who is an individual of limited means, but of unlimited expectations, locates, claims, and intends to hold and work two claims of 200 feet each on this ledge, containing, as he believes and hopes it does, gold, silver, calespar, feldspar and spar the barkeep, besides other precious metals too numerous to mention, together with all the dips, spurs and angles and triangles ranging from vertical to horizontal, and will work the same according to "Hoyle" and the very liberal laws of White Pine District. The undersigned is indneed to make this company of one, as he is anxious that the poor devil who comes along may have a fair show at the extensions, if he can find them. To be known as the Elephant Ledge and Company. William Pitcher, 200 feet; discovery, 200 feet.

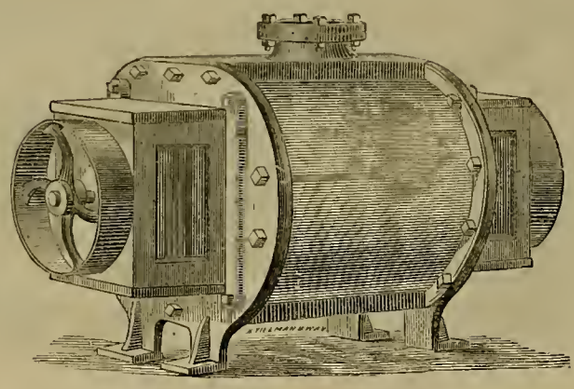
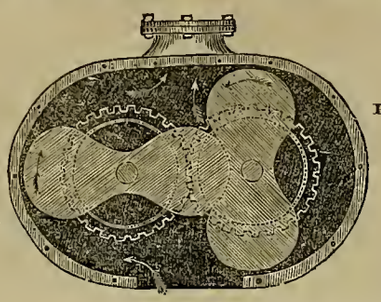
Pitcher did not develop the mine, and it slipped away from him.

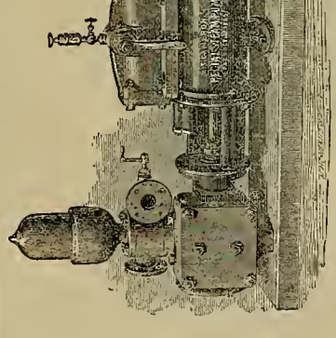
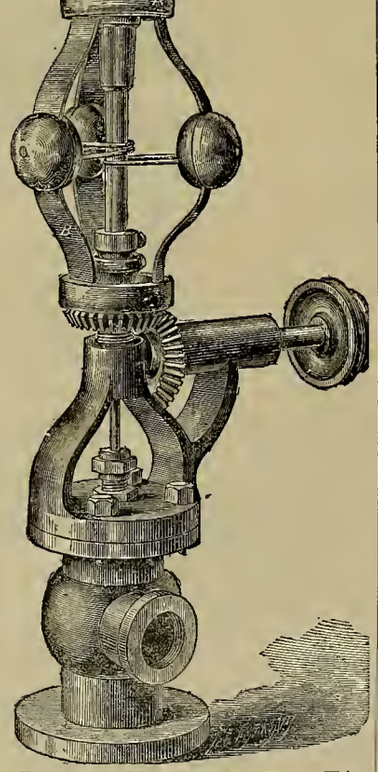
A GREASY MECHANIC.—The late Colonel Colt was himself a practical mechanic. By his will he left to his nephew an immense fortune. At the time of Col. Colt's death that nephew was learning his trade as a machinist in his uncle's shop, working diligently, in his dirty overalls, day by day, subject to the same rules as other apprentices. On his uncle's death he became a millionaire; but, choosing a guardian to manage his property, he continued at his labor, and faithfully served his apprenticeship. Now, as he walks the rooms of his house, or drives his handsome team, he has the consciousness that if his riches "take to themselves wings and fly away," he is furnished with the means of getting an honest livelihood, and may make a fortune for himself.—*Sci. American.*

THE MOUNT CENIS TUNNEL.—About three-fourths of this work is completed. It is estimated that the whole will be finished as early as the commencement of 1871.

CALIFORNIA
BUSINESS UNIVERSITY
204 Montgomery Street.
Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
17v17-qyt2p E. P. HEALD, San Francisco.

GEO. P. ROWELL & CO.,
AMERICAN NEWSPAPER DIRECTORY
Containing accurate lists of all the Newspapers and Periodicals published in the United States and Territorities, and the dominion of Canada, and British Colonies of North America;
Together with a description of the Towns and Cities in which they are published.
NEW YORK:
GEO. P. ROWELL & CO.,
Publishers and Newspaper Advertising Agents,
40 Park Row.
1869.
A handsome octavo volume of 399 pages bound in cloth.
Price, - - - - - - Five Dollars.
A work of great value to Advertisers, Publishers and others, who desire information in relation to the Newspapers and Periodicals of North America.
The edition will be limited, and persons desiring copies will do well to send their orders immediately to
GEO. P. ROWELL & CO.,
Publishers and Advertising Agents, 40 Park Row, New York. 2v18-2w

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.
Awarded the First Premium at the Paris Exposition.

ADAPTED FOR Smelting, Foundry, Mining and Steamships.

REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.
One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.
CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.
For circulars and further information, address
KEEP & BARGION,
4v16 3m Globe Iron Works, Stockton, Cal.

STODDART'S IRON WORKS.
CAMERON'S Special Steam Pump.

PICKERING'S Engine Regulator.

CAMERON'S STEAM PUMPS,
all kinds and all sizes,
FOR SALE BY
DAVID STODDART,
Mechanical Engineer,
114 Beale street, San Francisco.
Giffard's Injectors, Pickering's Engine Regulators, Wilson's Steam Traps, Utica Steam Gauges, Steamboat Machinery, Morrison & Seller's Patent Steam Hammers, Seller's Patent Bolt Screwing Machines, Lathes, Planers, Shafting and Haugers, Cooper & Phillips' Turning Tools, Machinists' Tools, Engines and Boilers, Wheeler's Patent Tumbling Beam-Engine for Screw Propellers.
DAVID STODDART, 114 Beale street, San Francisco.

Metallurgy.

LEOPOLD KUH,
Assayer and Metallurgical Chemist,
(Formerly of the U. S. B. Mint, S. F.)
Office, No. 611 Commercial Street, opposite the Mint, San Francisco.
BULLION MELTED AND ASSAYED.
The correctess of which is guaranteed in every respect. All kinds of Ore and Mineral tested, assayed and analyzed in the most satisfactory manner.
Refers by permission to W. C. Ralston, Cashier Bank of California; Messrs. Ploche & Bayerque, Wm. M. Lent, John D. Fry, E. Cahill & Co., A. K. Grim, President Pacific Union Express Co.; John M. Eckfeldt, M. and R. U. S. B. Mint; Hale & Norcross S. M. Co., and the principal mining companies on the Comstock Lode. 25v17-tf

JOHN TAYLOR & CO.
IMPORTERS,
AND DEALERS IN
ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,
Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.
WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior
ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.
A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.
San Francisco March 6, 1865. 11v10-tf

PROF. HENRY WURTZ,
Formerly Chemical Examiner in the U. S. Patent Office, may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞Written communications preferred.

Important to Gold and Silver Miners and Companies.
PROFESSOR WURTZ,
Who is the Inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of
SODIUM AMALGAM.
All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Ingburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

G. W. STRONG,
ASSAYER AND WORKER OF ORES,
No. 10 Stevenson street, near First, San Francisco.
Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms.
14v15qr.

MEUSSDORFFER,
HAT MANUFACTURER
And dealer in
Hats and Caps
AT WHOLESALE AND RETAIL.
635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of D and Second streets.....Marysville.
72 Front street.....Portland, Oregon.
Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

OCCIDENTAL
Insurance Company,
OF SAN FRANCISCO.
Cash Capital, - - - - - - - $300,000
GOLD COIN.
Office S. W. corner of Montgomery and California streets.
Fire and Marine Insurance.
All Losses paid in U. S. Gold Coin.
CHR. CHRISTIANSEN, President.
B. ROTHSCHILD, Secretary 20v17-3m

A WARNING
TO ALL WHO ARE AFFLICTED.
Before the rainy season comes get cured of Rheumatism and Neuralgia, by herbs only. The receipt was given some years ago by an old Indian in New Orleans, and it has never failed to cure all it says. Many have been cured in this city and in Boston, and all say it is the best they have tried. Manufactured by MRS. MARY HIGGINS, Oregon street, two doors west of Drumm. Orders sent by mail or express attended to on receipt of $5 per bottle. 22v17-3m

PERSONAL.—Mr. William H. Murray, our traveling solicitor, is on a tour through the counties of Santa Clara, Santa Cruz, and we trust he will send us some facts in regard to the tanning, lime-burning, manganese and quicksilver mining, powder-manufacturing, railroading, and other special interests of that section.

THE BATOPILAS MINES.—A photographic copy of a nicely executed map of the Batopilas mining region, made by R. H. Stretch, has been left with us, showing the localities of all the mines and tunnels referred to in our communication from that district, published in another column.

A HEARTY RECOMMENDATION of Hondy's Concentrator can be seen in our advertising columns to-day. It is written by the intelligent superintendent of one of our best mines.

MAGAZINES.	Per An.
Harpers	$ 4 00
Atlantic	
Godey	
New York Ledger	
Blackwood	
Hours at Home	
Good Words	
Peterson's	3 00
Arthur	
Lady's Friend	
Harper's Weekly	6 00
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London Ill. News	15 0

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News Dealer
AND STATIONER,
Southeast corner Sansome and Washington streets,
SUPPLIES ALL
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by the Year, Month or Number

Mining Property for Sale.

The Sauce and Giantess Mines,

Located fourteen miles from the safe and commodious harbor of San Bruno, on the Gulf side of the Peninsula of Lower California, are offered for sale. Specimens of the ores, together with a map of the country and drawings of the mines, showing both the surface and underground workings, also the Territorial Surveyor's survey of the mines and land—comprising over sixty square miles—may be seen at SAWYER & WILLIAMS, 439 California street

THE TITLES ARE PERFECT.

The Mines and either the whole or part of the land, will be disposed of.

For further particulars address

CAPT. WM. WILLIAMS, Sole Agent,
Care Messrs. Sawyer & Williams,
3v18-1m **439** California St., San Francisco.

IMPORTANT TO LUMBERMEN.

ANDERSON'S
Patent Mulcy Saw Hangings.

These Mulays will cut FIFTY PER CENT. MORE LUMBER PER DAY than any other Mulay in use, with fifty per cent. less power. They are very durable, and easily kept in order, and warranted to give satisfaction. No Mulay Mill should be without them, as they will pay for themselves in a very short time. No other mode of manufacturing Lumber can compete with the Mulay Saw with this improvement. Send for circular. FULLER & CO.,
Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

Patent Rights for Sale.

For Preserving Timber from Decay

The cheapest method for curing Wood.

A. HAMAR'S PATENT.

WOOD PAVEMENT,

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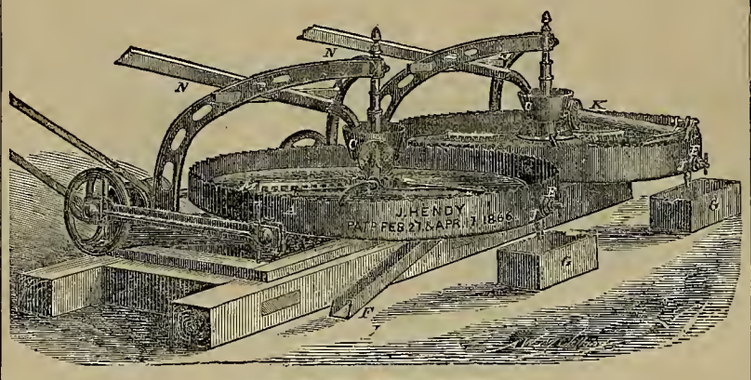
PREMIUM FOR BEST CONCENTRATOR
AWARDED BY THE
MECHANICS' INSTITUTE, 1868,
ALSO AT THE STATE FAIR FOR 1868,
To J. HENDY.



A LARGE NUMBER OF THESE
IMPROVED CONCENTRATORS
ARE IN PRACTICAL USE ON THE PACIFIC COAST.

MR. HENDY, by diligent and practical application, has improved his Concentrators until they now stand unrivalled, far in advance of any yet brought to public notice.

By recent alterations in the patterns for these machines, they are now made

Stronger and more Durable than Ever.

OFFICE OF NORTH STAR MINE, GRASS VALLEY, Nov. 12, 1868.

JOSHUA HENDY, ESQ.—Dear Sir:—I take pleasure in certifying to the efficiency of the two last Concentrators ordered from you. We have run them steadily since July last, with but a very trifling expense for repairs. The additional length of step is a decided improvement. The first six sent to us have run steadily for nearly nine months, and are still doing good work. * * * The concentrations from the eight pans alone much more than pay our entire surface expenses. Without them we should lose a large proportion by any system of concentration now in use. The eight Concentrators receive the pulp from our 24 stamps, which are crushing 1,040 tons per month. Our sales of Sulphurets last month amounted to 70 tons, or nearly 7 per cent. of the mass crushed. The sulphurets from the reconcentration, contained about 10 per cent. sand. In addition to their properties as concentrators, they have done us good service as amalgamators, they having saved us the past month 50 ounces of hard amalgam, worth $350, which otherwise would have been lost.

Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.
Office at Union Iron Works.

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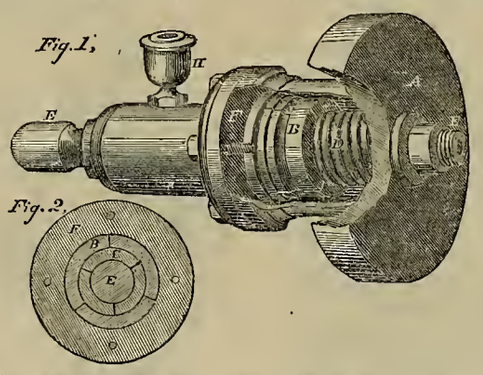
COLLIER & SILLIMAN'S
METALLIC PRESSURE PISTON ROD PACKING.



This invention relates to the packing used to render piston rods or propeller shafts steam and water tight, and has for its object the construction of a metallic packing, which shall be operated upon by gas, the vapor or liquid exerting the pressure, in such a manner as to form a perfectly tight joint. It also consists in so forming the gland of the stuffing box, that it shall serve as a support and guide for the rod and shaft, and at the same time afford great facility for lubrication.

Two small openings now connect the interior of the cage with the source of pressure—as the cylinder in an engine or pump, or the water outside of the ship if it is for a propeller shaft—so that the greater the pressure the closer are the rings forced against the rod and inner face of the gland. In any case the Packing is to be applied to a water or air pump, so that the pressure will come from the liquid or the gaseous substance, as the case may be. One of the most important uses of this Packing is in the stuffing boxes of propeller shafts, in which case the openings connect with the outside water, the pressure on the rings depending upon the depth to which the shaft is submerged. This device is simple, and not easily got out of repair; is perfectly efficacious and self-regulating, and in the case of shafts, especially, will do away with the great expense of repairing the derangements of the stuffing box which now so frequently occur. This new invention has already been adopted on the Central Pacific Railroad and by some of the principal Flouring Mills in San Francisco and Sacramento, and is growing at once into popular favor. A description of the engraving accompanying this will be found in the *Mining and Scientific Press* Jan. 9, 1869, and in the patentees' circular, which can be had free on application.

Certificates of Recommendation:

OFFICE C. P. R. R. CO. OF CAL., Sacramento, Nov. 24, 1868.—*To Whom it may Concern:*—This Company has made a thorough practical test of Collier & Silliman's Patent Metallic Rod Packing, and find it a superior mode of packing to any other in use, and accordingly recommend it to all others interested.
E. B. CROCKER, Gen. Agent C. P. R. R. Co.

THIS IS TO CERTIFY, that we have been using the Collier & Silliman's Patent Metallic Rod Packing, and find it a superior mode of packing to any other in use, and would recommend it to all others interested.
SETH H. GARFIELD, Prop. Pioneer Mills, Sac. City; WM. ETCHELLS, Engineer.

For sale at the principal Machine Shops and Foundries in San Francisco. Full particulars can be obtained by addressing ORRIN COLLIER, Sacramento, Cal., or E. B. SILLIMAN, Bridgeport, Ct.

3v18-3m1am

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Tuition, $125 per year of forty weeks.

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For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

MINING AND SCIENTIFIC PRESS.

Subscription, $3 Per Annum. Single Copies, 15 Cents.

A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, JANUARY 23, 1869.

VOLUME XVIII. Number 4.

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MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Arizona, Colorado, China, Idaho, Montana, Nevada, Oregon.
San Francisco Mining Shareholders' Directory.
San Francisco Metal Market.
San Francisco Market Rates.
Notices in Correspondents.
Stock Prices—Bid and Asked.
New Incorporations.

Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

No. 326.—Gold quartz, from Frank Morse, Larrimer's Mill, Grass Valley.

No. 327.—Gold quartz from Yankee Jim ledge, Placer county.

No. 328.—Gold, pyrites and galena in quartz, from the Swezey Pioneer ledge, Newcastle, Placer county. It pays at the mill $15 to $20.

No. 329.—Gold pyrites, Capt. Lee, Grass Valley.

No. 330.—Concentrated sulphurets, from North Star mine, Grass Valley, Mr. Crossman, Superintendent. This mine was sold lately for a million dollars.

No. 331.—Auriferous copper pyrites, from Bald Hill near Auburn, Placer Co.

No. 332—Auriferous copper pyrites, from Green Emigrant mine, Meadow Lake, Nevada county.

No. 333—Graphite, from Alisky & Woodbury's mine, forty miles above Sonora, Tuolumne county. It has the peculiar red glance which always characterizes molybdenum, but which is also occasionally found in graphite. A graphite mine was formerly worked below the Macomber mine, but the quality was not equal to this one, and it was soon abandoned. This is worth $250 to $300 to the ton, according to information derived from dealers in Philadelphia. The method of dressing graphite is, first, stamping fine, and then washing it in a revolving barrel; the water flowing out at one end, carrying with it the gangue. Snow lies for six months in the vicinity of this mine, so that it can be worked for only about four months in the year.

EARTHQUAKE PROOF BUILDING.—Wm. H. Foye, the inventor, recently showed us the model of an earthquake-proof building, of a new design, which is sufficient to convince a practical mind that our people can construct houses, without much extra cost, that will withstand harder shakes than any that have yet been recorded on this coast.

SPECIMENS sent to this city from some of the new coal mines near Argenta, are nothing but bituminous shale.

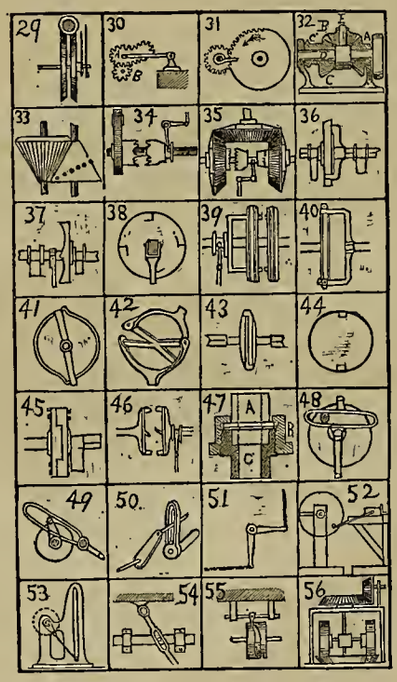
Mechanical Movements.

We continue this week (from page 385, volume XVII) our study of the simple mechanical movements:

29. Numerical registering device. The teeth of the worm shaft gear with a pair of worm-wheels of equal diameter, one having one tooth more than the other. If the first wheel has 100 teeth and the second 101, the points will indicate respectively 101 and 10,100 revolutions.

30. An irregular vibratory motion is given to the arm carrying the wheel A, by the rotation of the pinion B.

31. Intermittent rotary motion of the pinion-shaft, by the continuous rotary motion of the large wheel. The part of the pinion shown next the wheel is cut on the same curve as the plain portion of the circumference, and, therefore, serves as a lock whilst the wheel makes a part of the revolution, and until the pin upon the wheel strikes the guide-piece upon the pinion, when the pinion-shaft commences another revolution.



32. Entwistle's patent gearing. Bevel-gear A, is fixed. B, gearing with A, is fitted to rotate on stud, E, secured to shaft D, and it also gears with bevel-gear, C, loose, on the shaft D. On rotary motion being given to shaft, D, the gear, E, revolves around A, and also rotates upon its own axis, and so acts upon C in two ways, namely, by its rotation on its own axis and by its revolution around A. With three gears of equal size, the gear C makes two revolutions to every one of the shaft D. This velocity of revolution may, however, be varied by changing the relative sizes of the gears. C is represented with an attached drum, C'. This gearing may be used for steering apparatus, driving screw-propeller, etc. By applying power to C, action may be reversed, and a slow motion of D obtained.

33. Uniform into variable rotary motion. The bevel-wheel or pinion to the left has teeth cut through the whole width of its face. Its teeth work with a spirally arranged series of studs on a conical wheel.

34. Clutch-box. The pinion at the top gives a continuous rotary motion to the gear below, to which is attached half the clutch, and both turn loosely on the shaft. When it is desired to give motion to the shaft, the other part of the clutch, which slides upon a key or feather fixed in the shaft, is thrust into gear by the lever.

35. The vertical shaft is made to drive the horizontal one in either direction, as may be desired, by means of the double clutch and bevel-gears. The gears on the horizontal shaft are loose, and are driven in opposite directions by the third gear; the double-clutch slides upon a key or feather fixed on the horizontal shaft, which is made to rotate either to the right or left, according to the side on which it is engaged.

36. Claw coupling.

37, 38. Lever couplings. On the driving shaft, a disk with spurs is mounted, and to the shaft to be driven a lever is hinged. By causing this lever to catch in the spurs of the disk, the coupling is effected.

39. Prong and spur lever coupling.

40. Friction clutch. By tightening or releasing a steel band, encircling a pulley on the shaft, the machinery is thrown in or out of gear.

41. Face view of Fig. 40.

42. Universal joint.

43, 44. Disk couplings, with lugs and cavities.

45. Disk coupling with screw bolts.

46. Self-releasing coupling. Disks with oblique teeth. If the resistance to the driven shaft increases beyond a certain point, the disks separate.

47. Union coupling. A is a pipe with a small flange abutting against the pipe C, with a screwed end; B a nut which holds them together.

48. Crank motion, with the crank-wrist working in a slotted yoke, thereby dispensing with the oscillating connecting-rod or pitman,

49. Quick return crank motion, applicable to shaping machines.

50. The two crank-shafts are parallel in direction, but not in line with each other. The revolution of either will communicate motion to the other with a varying velocity, for the wrist of one crank working in the slot of the other is continually changing its distance from the shaft of the latter.

51. Elbow crank, for changing motion.

52. Crank motion.

53. One stroke of the piston gives a complete revolution to the crank.

54. Rectilinear motion of horizontal bar, by means of vibrating slotted bar hung from the top.

55. Uniform reciprocating rectilinear motion, produced by rotary motion of grooved cams.

56. Pair of edge runners or chasers for crushing or grinding. The axles are connected with vertical shaft, and the wheels or chasers run in an annular pan or trough.

NEVADA SILURIAN FOSSILS, ETC.—Specimens of the fossils referred to in Mr. Clayton's communication, are now on exhibition at this office. They have been referred to by Whitney, and described and named by Meek, in the *American Journal of Sciences;* consisting chiefly of new species of corallines, trilobites, brachiopods (mollusks), and algae or seaweeds. Those who have Dana's Geology, will find an allied species of coralline on p. 263, fig. 435; of a trilobite on p. 189, fig. 245; and of brachiopods on p. 183, fig. 235, and p. 187, fig. 244. Some of the gray and magnesian limestones are almost entirely made up of corallines. In the greenish calcareous slates, trilobites and brachiopods take the lead, constituting the greater portion of the rock.

Mineralogical specimens of interest in the same collection are oolites, (concretionary limestone) of large size, coarsely crystalline in the center, from Silver Peak; tufaceous deposits id.; fluorspar from Last Chance Hill, Aurora, with pseudomorphs of quartz; garnets, from near Carson City; and slags, from the smelting of Partzite with soda ("alkali") for flux at Adobe Meadows, showing the presence of much oxide of copper, and some globules of silver.

NEW PUBLICATIONS.—We have received, from A. Roman & Co., the following holiday books:

Silver Threads, by Harriet B. McKeever.

Comic Recitations and Humorous Dialogues, by Jerome Barton.

Amateur Theatricals and Fairy Tale Dramas, by Miss S. A. Frost.

No Baby in the House, and other stories for children, by Clara G. Doliver. Published by A. Roman & Co., New York.

Also from other sources, the reports of Prof. J. G. Pohlo and Prof. John Torrey, on the Geology of the Dutchess County N. Y. Gold Mining Territory.

The Starling Progressive Papers, by W. D. Reichner, Philadelphia.

The Pacific Coast Almanac and Year Book of Facts, compiled by Henry G. Langley, editor of the State Register, etc.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Account of Famous Mines in Mexico.

BATOPILAS, Chihuahua, Mex., Oct. 24th, 1868.

[Continued from page 34.]

HISTORICAL.

As I stated in the beginning, the district had since about 1812, when the San Antonio mine ceased to pour forth its immense riches, gradually fallen into decay; the mining population removed to other places, leaving finally only a few hundred in the village, disposed to eke out a precarious life by picking and washing over old rubbish piles, or entering the old abandoned mines to pick the remaining metal from the pillars in them. It was only at long intervals that a few enterprising persons then undertook new works, some of which resulted in large profits to them.

Under such circumstances, it happened that in the year 1859, an American gentleman by the name of H. A. Stearns, a man of large experience in mining matters and far-seeing business habits, was induced to visit this deserted district. To him and his untiring energy in its behalf, Batopilas may thank the revival of its ancient glory, now at this date secured beyond a doubt; and his name ought therefore to stand recorded in the annals of this newborn epoch, whose fame I am convinced, will, in a few years hence, shed a world-wide luster over this wonderful place. He at once understood the magnitude of the prospects the district offered, and the necessities it required—capital and labor—and with more than usual energy set to work to make it known.

He succeeded in drawing the attention of certain parties in New York to a splendid claim called the San Miguel. They purchased the same from its Mexican owner, and sent an agent out to open it, Mr. J. Robinson, a gentlemen also of rare business tact, and considerable practical experience, highly respected by everybody, who, after several years' constant working, has succeeded in bringing the claim into such a state that very few anywhere may be compared with it.

THE SAN MIGUEL PROPERTY,

owned by himself, Mr. D. N. Barney, Louis McLane, W. G. Fargo, B. P. Cheney, and others of New York, comprises a number of the most celebrated mines in the district, many of which have given immense bonanzas. Foremost among them rank the San Antonio, discovered and worked about the beginning of the present century, by a comon workman, Cristoval Perez, who sunk down from the surface to the depth of 120 yards in one vast mass of the very richest silver, without once breaking off for fourteen years, and took therefrom more than $16,000,000. A short distance from it the great mine of

EL CARMEN

is seen, which was worked about the same time by the Marquez de Bustamante, who is said to have extracted many millions from it. Among this metal was one lump of solid silver, over 400 pounds in weight. Besides these, the Caucio and the Fierros veins have produced astonishing amounts, none of them being worked deeper than 150 yards. This claim is worked by a tunnel, running into the mountain about forty feet above the river, and destined to cut all the veins and former mines considerably below their bottoms. The tunnel was commenced by the former Mexican owner, Mendazona, and is diligently continued by Mr. Robinson. It has attained, at this date, a length of 1,400 feet, and cut, besides several principal lodes, a great number of lesser, hitherto unknown ones, every one of which was struck in the very richest metal, up to perfectly solid and beautifully white silver. Mr. R. is driving an air-shaft, which, when completed, will allow the better development of the various lodes below. Many millions will then assuredly come out of them within a few years. Only two weeks ago a vein was cut three yards wide in metal, that will give $8,000 to the ton. The company also own a large hacienda with splendid water-power, and a fine house and lot in town.

Next in importance to this claim ranks the great

PASTRANA MINE,

situate on the famed Animas Hill. The lode on which it has been worked to the reputed depth of 150 yards, is looked upon as the most important of all, showing in parts a width of seven yards between its walls, and said to have given in various successive bonanzas, more than $40,000,000. The richness of its metal is known to have been such, that frequently it gave $40,000 in one single week; and a pillar thrown down in later years produced also over $40,000.

Common report says that the principal works in it were abandoned about 150 years ago, in consequence of a tremendous rush of water filling them after a severe rain storm, and that a portion of them, as also the bottom, were left in good ore.

Several attempts have at various times been made to drain the mine, the last and most energetic one by Don Nepomucéno Sanchez, overseer for the Marquez of Bustamante, which was interrupted by the revolution breaking out in 1821, obliging all native Spaniards to fly the country.

It remained deserted until 1854, when an English gentleman, Mr. George Le Brun, induced by certain manuscript documents in his possession, and having full faith in the mine, undertook anew the working on it. He started a tunnel from the east side, which he has ever since continued with the most untiring energy, and never for a day wavering in his confidence of success. In sundry occasional workings in the upper parts, considerable amounts of silver have rewarded his enterprise. He struck a small thread which, beginning not thicker than a knifeblade, within a few yards, gave over $46,000 in massive silver.

Under the most discouraging circumstances this tunnel was driven through exceedingly hard rock, a distance of about 300 yards from the vein, until—I am happy to say—success has at last rewarded his work. A short time ago he tapped the old workings, the water running therefrom for several days in a tremendous stream. When an entrance through the opening was finally effected, what seems to be a pillar, was discovered, whose extent is yet unknown, the metal of which gives about $64 to the carga of 300 pounds, or $450 to the ton, while the rubbish filling the work, averaged $32 to the carga, or $224 to the ton. This fact goes to show that the old reports were at least not entirely unfounded, and verifies the probability of immense riches lying beneath, at the same time being evidence that new developments in these so-called, or formerly abandoned mines, will almost invariably uncover fresh deposits of ore.

The fact of this tunnel having succeeded, will not only serve Mr. Le Brun himself as a well-merited reward, but aid the district immeasurably in its fame.

I will here add, that Mr. Le Brun has always shown the most unselfish kindness to Americans traveling through the country, and deserves their fullest respect for his uniform gentlemanly behavior to them, and for the strictest integrity in all his dealings.

The third claim in importance seems to me to be the one called the

ST. THERESA,

on the Animas Hill. It comprises an unknown number of lodes,—a perfect network of them,—perhaps over one hundred. Those that have been worked, have, wherever touched, all given very rich silver, although the workings on them hardly merit the name of mines, as but very few go over forty yards in depth. The present owner of this claim, a Mexican by the name of Don Jesus Valenzuela, confines his enterprise mainly to one, the Santa Theresa proper, which stands in very rich silver, large masses of pure massive metal coming out of it. The same gentleman owns and works, besides this claim, four other ones on different hills, called respectively, the San Nestor, Animas, St. Domingo, and Aurora, all of which give him very flattering results.

MINERO.

[To be continued.]

WE have ever found that blacksmiths are more or less given to vice. Carpenters, for the most part, speak plainly, but they will chisel when they can get a chance. Not unfrequently they are bores, and often annoy one with their old saws.

IT is reported that the well known stageman, Hill Beachey, has sold his interest in the Golden Chariot mine, at Silver City, Idaho, for $300,000.

[Written for the Mining and Scientific Press.]

Decomposition of Silver Ores with the Aid of Electricity.

EDITORS PRESS:—Adverting to the article in your issue of the 9th inst., upon the use of electricity in the reduction of silver ores, I may perhaps be permitted to make a few remarks. Without arrogating to myself any greater information than that resulting from long and patient study and experiment, I have certainly a right to claim the barren honor of being the first person upon the Pacific slope to apply the electric current to the decomposition of crude silver ores, and the consequent production of first a chloride of, and then metallic silver. The experiments I refer to, commenced as long ago as the year 1859, pending which I filed a caveat in the Patent Office. These experiments were highly satisfactory and successful, but the heavy expense always incidental to new and untried enterprises, compelled me when my means were exhausted, to suspend operations; however, it is without regret that I now find a process of such incalculable value to our mining interests, is at length likely to be introduced. Such information as I possess, it affords me pleasure to supply. The advantages from the electric process over the Patio process are many. By the latter there is a continuous loss of the quicksilver, and this is a very heavy item. The length of time requisite, the much greater labor involved in manipulation of the ingredients, are also very serious drawbacks. Moreover many refractory ores are successfully workable by the electric process, which would not be operated upon by the Patio process. In making this assertion, I am supported by the result of many tests, which I have made in quantities varying from ten pounds to a ton at a time. In the operation of the electrical process the products of the decomposition vary with the nature of the ore, the intensity of the current, and the temperature at which the operations are performed. At a certain stage metallic silver is invariably found in a state of minute division, and susceptible of immediate amalgamation with quicksilver. It is to be observed that the primary production, however, is the chloride of that metal, which is then, by the same current that produced it, reduced to the simple metallic form. The base metals are mostly unacted upon with the exception of lead and perhaps antimony and some few others. By an inexpensive addition, simple in its application, though somewhat complex in its operation, the difficulty is easily obviated. The minor products are hydrogen, sulphureted hydrogen, arsenide of hydrogen, di-chloride of copper, oxychloride of copper, sulphate of soda, sulphuric acid, sulphur, and some metallic chlorides of such base metals as are present, and are acted upon, and the treatment of which I have referred to. Certain points in the process, and in the application of the current, can only be acquired by experience, and like all other chemical manipulations require experimental demonstration in addition to written or oral explanations to render them appreciable by the enquiring mind. The following are the results of some experiments performed by me on sulphide of silver artificially prepared; they may be of some value to those interested on the subject—an excess of chloride of sodium and water being present in each case: 1st. 3 equivaleuts of sulphide of silver, 4 of chloride of copper, and 3 of water were resolved into—3 equivalents of metallic silver, 3 of chlorine, 3 of sulphydric acid and 1 of oxychloride of copper:—$3\,Ag\,S + 4\,Cu\,Cl + 3\,H\,O = 3\,Ag + 3\,Cl + 3\,H\,S + CuCl, 3CuO$. 2d. 2 equivalents of sulphide of silver, 4 of dichloride of copper, and 6 of water were resolved into—2 equivalents of metallic silver, 2 of chlorine, 6 of hydrogen, 2 of oxychloride of copper, and 2 of sulphur: $2AgS + 4Cu^2Cl + 6HO = 2Ag + 2Cl + 6H + 2(CuCl,3CuO) + 2S$. These experiments were performed at a temperature of 60° Fah., and there was formed an excess of oxychloride of copper in them both, produced by the action of the salt water on the positive pole (which was of copper) assisted by the current. 3d. On artificially prepared sulphide of silver at the temperature of 140° Fah., I mixed 4 equivalents of the silver sulphide, 1 of dichloride of copper, with excess of chloride of sodium and water — result 4 equivalents of metallic silver, sulphureted hydrogen was given off, and sulphate of soda, free chlorine, sulphuric acid and sodio-di-chloride of copper found in solution. In this case there was no oxychloride of copper formed, a positive pole of graphite being used. The increase of the temperature greatly facilitates the operation. I may mention that the yield of silver from the ores treated was, in round numbers, from 79 to 98 per cent. of the actual quantity contained in the ore, the greatest being from simple sulphurets and chlorides, and the least from antimonial and bismuthic ores. In conclusion, I would mention that the process is applicable to the reduction of tellurides, selenides, oxides, and all compounds of silver, and upon the authority of the late Mr. D'Aumaile who was associated with me in many of my experiments, that it can be successfully applied to the ore containing the double oxide of manganese and silver, this ore having hitherto been considered too rebellious to be satisfactorily worked by other means.

JOHN SCOTT,
Metallurgical Chemist.

[Written for the Mining and Scientific Press.]

The Silurian Rocks of Southern Nevada.

EDITORS PRESS:—The Silurian rocks of Southern Nevada were first recognized by me in the spring of 1865,—Mr. Stanson, of Austin, and myself made a short visit to Silver Peak district, for the purpose of examining the silver mines of that place. The next morning after our arrival, I discovered "*coralines*" in the gray limestone along the eastern foothills of the Red Mountain range, (near the place where the Silver Peak and Red Mountain mill has since been erected). I then made a search for shaly beds that usually accompany the limestones, and was fortunate enough to find a small point of yellowish slate exposed near the edge of the salt marsh. In this I found numerous fragments of trilobites, but no specimens entire.

Some months afterward I was more fortunate, and got several fair specimens of trilobites and numerous samples of the coralines in a good state of preservation. This collection I gave to Prof. Whitney, to be forwarded to Prof. Meek, of the Smithsonian Institute, for determination. These gentlemen both recognized the fossils as Silurian, but I have not yet received a statement of their classification. In the last two years I have found the same rocks and imbedded fossils twenty-five miles S.E. of Silver Peak, near Alida Valley, in the Gold Mountain district; and I have no doubt they are to be found in numerous localities in the southern and eastern portions of the State.

I herewith send you an ideal section of the country rocks, as they appear in the N. E. slope of the Red Mountain range, on a line from the summit above the gold mines—to the extinct crater—in the valley to the N. E. of that point. The great underlying mass is granite. The gold-bearing quartz veins are in the lower slates near the granite, and usually associated with dikes or beds of dark greenish trap—sometimes above, but generally below the veins forming the foot-wall.

The central portion of the slates carry no rich veins of gold or silver, but in the upper portions near the dolomite, silver is the predominating metal. The dolomite also contains silver-bearing veins in the under portions near the slates. The only metals found in the coraline limestone are traces of copper and silver.

The tertiary sandstones and argillaceous beds are found in *contact with the Silurian*, from which fact I conclude that the Silver Peak region was *above* the ocean level from the Silurian age to the Tertiary period. But in the "Volcano District," about seventy-five miles N. W. of the Peak, the Jurassic, Triasic, and probably the carboniferous rocks are represented. The geology of the great interior Plateau of the continent is a stony *patchwork*, without extended continuity in any one direction.

Yours truly, J. E. CLAYTON.

THE point to which the sea wall has advanced, between Clay and Commercial streets, has from sixty to sixty-five feet depth of mud through which the embankment must settle to find a solid foundation; rendering the preparatory dredging and general progress very slow.

Mechanical.

Electro-Magnetism as a Motive Power.—In 1837, Thomas Davenport, of Brandon, Vt., obtained a patent and came to New York, with a model of his electro-magnetic engine, the working of which astonished the scientific men of that city. It was avowed that he had wrought out the great discovery of the use of electro-magnetism as a motive power. His model was very simple, having two electro-magnets, placed within attractive distances of a revolving steel magnet. A patent was secured in England. The interest of wealthy men was engaged. A large working machine was built, with four of the largest electro-magnets then known, each weighing about 300 pounds. These magnets were charged from a battery of copper and zinc containing a solution of sulphate of copper which, when dissolved, was of the capacity of a barrel. With a cast iron wheel six feet in diameter, weighing 600 pounds, a velocity was attained of seventy-five revolutions per minute.

Professor Wheatstone was loud in his praise of the working of the model. Professor Daniel prophesied that the days of steam were numbered. Professor Faraday saw the wheel revolve for several minutes, and watched with an appearance of astonishment the large electric spark which was given off every time the current was broken, a spark so large that it emitted a light in the evening sufficient to illuminate the room. He spoke not; but taking up a broom, he gently placed the handle of it on the periphery of the wheel, and with a slight pressure the wheel gradually revolved slower. He did not quite stop the motion, yet he saw how easily it could be done. He kindly informed those most interested that his opinion expressed to the public would greatly injure the sale of the patent; so he preferred not to advance one then. The many subsequent failures have proved his sagacity. *Power* is wanting.

We condense the above from an article in the *Scientific American*.

Polishing Wheels for Small Instruments.—A correspondent sends the following to the *Dental Cosmos:*

"Take a piece of sole leather of a suitable size, make a hole through the center and attach it to the lathe in the same manner as a corundum wheel; then with a sharp chisel turn it down to the size desired; coat the face of it with glue, and apply as much coarse emery as the glue can be made to take; put it aside to dry, and you have polishing wheel No. 1. Make another in the same way, only using fleur of emery instead of the coarse, for No. 2. Form a third wheel in the same manner, but instead of the glue and emery, apply crocus with water, for No. 3.

The labor of polishing is diminished by turning little grooves into the face of the wheel before applying the emery.

An excellent wheel for carrying the pumice, in polishing vulcanite, can be formed by fastening together two of these leather wheels with brass screws (common wood screws) between which are three or four thicknesses of woolen cloth cut somewhat larger than the leathers. The leather keeps the wheel stiff and firm, and, as the cloth becomes worn down, will not scratch the plate, even though it should touch it."

Creosote as Fuel.—The London *Mining Journal* of Nov. 28th, has the following:

"An ordinary re-heating furnace of large size is now in constant use at the works of Messrs. Camroux & Co., engineers and boiler manufacturers, at Deptford Creek, in which creosote is the only fuel employed, and its working has given complete satisfaction. Under ordinary circumstances the iron is ready for fashioning in little more than half the time required when coal is used; and, as the heat is equal in every part of the furnace, it is never requisite, as sometimes happens with coal, to replace the metal in the furnace to complete the shaping of it. The creosote is converted into vapor in an auxiliary boiler, and the vapor supplied through a coil of pipe which takes the place of the usual fire; the supply of vapor requisite to produce the desired heat being regulated by a stop-cock, in the same way and as easily as the supply of illuminating gas to an ordinary burner."

The Steam Indicator.—The following is from a paper recently read before the Polytechnic branch of the American Institute, by Charles L. Emery: "The indicator is so constructed and attached that steam from the main cylinder presses upon one side of a small piston in the instrument, the atmospheric pressure being upon the other side. To the indicator piston is attached a spring and a pencil, the latter arranged to mark on paper. The predominating pressure on the indicator piston, whether of the steam or of the atmosphere, extends or compresses the spring in proportion to the intensity of the pressure, and moves the pencil up and down on the paper. The paper is arranged on a drum, which is so connected that it has a side motion corresponding to that of the engine piston. Consequently, as the engine piston moves, the paper is moved sidewise, and, as the pressure changes, the pencil is correspondingly moved up and down; so that the figure or diagram traced on the paper is a combination of the two movements, and should show the pressure at each and all points of the stroke. The mean of a number of ordinates on the diagram represents the mean pressure per square inch of piston, which, multiplied by the area of the piston, gives the total force which produces the piston movement, from which the power may be calculated. The indicator is a beautiful instrument, of great value to the steam engineer; still, in many cases, its indications are unreliable. It shows perfectly whether the valves are adjusted properly; often, when an engine is working improperly, a glance at the diagram will reveal the difficulty, and suggest the remedy. Large leaks in the valves or piston may also be detected in this way. The indicated pressure at the end of the stroke has been employed to determine the quantity of steam used by the engine. Calculations founded on such a basis are entirely worthless. It has been attempted, also, to calculate the friction, from indicator friction diagrams; but the system is practically erroneous. The indicator is chiefly employed, however, to determine the power of an engine, it being supposed that the diagram shows correctly the pressure at all parts of the stroke. Even this it fails to do under certain circumstances. The moving parts of the instrument must have weight and friction, and some force is necessarily required to overcome the latter, and put the mass in motion. If, therefore, the pressure be ascending, the indicator will show less than it should; and when the pressure is descending, the instrument will show more than it ought."

The author goes on to say in the course of the paper, that although the indicator is defective, he is unable to point out another instrument which is fit, in every respect, to take its place.

The Steam Engine Perfect from the Start.—In the course of a lecture recently delivered at Steinway Hall, New York, by Prof. Silliman, he said: "There has never been in the history of inventions since the world began, any machine or apparatus which was so perfect as it left the the hands of the inventor as the steam engine was when it left the hands of Watt. You may stand to-day beside the most stupendous piece of steam engineering in the world, and you will see connected with it no essential change in his invention. It is true that he had no machinery or tools competent to reach the exact results that we can now produce. He had no turning lathes, boring machines, planing machines, but all was done by the cold chisel, the hammer, the file, etc., and the marvel is that he produced such results as he did. I have often thought with what delight that great man would stand upon one of our first-class steam frigates, or by one of our first-class pumping engines, such as is used at the reservoirs in Brooklyn and New York, and see the perfection, the finish, and the smoothness of the work, a result possibly solely due to the genius of Watt, because without that power we could not have had the apparatus with which to apply it."

Liquid Fuel for Locomotives.—The French journal *Moniteur* says that the following plan has been tried at Chalons, for burning petroleum in locomotives: "A stream of the oil flowing from a tap,—which controls and regulates it easily and perfectly,—falls upon a brick slab behind a vertical grating, and is there burned." The *Moniteur* says the experiment was completely successful.

Scientific Miscellany.

Charcoal as a Disinfectant.

The offensive odors arising from the putrefaction of animal remains, are neutralized by powdered charcoal. This is owing partly to the power which the charcoal possesses, of absorption and of concentrating within its pores the noxious effluvia. One volume of it will absorb ninety volumes of ammoniacal gas; of hydrogen gas, it absorbs one and seven-tenths; of oxygen, nine and two-tenths volumes. Some time ago Dr. Stenhouse demonstrated that the absorptive action of charcoal is not a mere passive reception of gases into its pores, but that it exerts a peculiar power in inducing actual combustion of carbonaceous substances, by furnishing the quantity of oxygen necessary to this combustion, which oxygen it had previously absorbed. In other words, charcoal actually possesses the power of burning up organic substances at ordinary temperatures, and of resolving them into their ultimate products. This combustion proceeds moderately, and consumes more time than if the substance had been burned by fire; but the effect is the same, and the same ultimate products are generated in both instances. The fact of the combustion of the noxious gases may be proved by exposing the usual test for ammonia (hydrochloric acid) near the charcoal, when white fumes will arise. The gases which are evolved by putrefaction are mainly composed of carbon, hydrogen and nitrogen, although phosphorus and sulphur are also present, to a limited degree. These gases, passing through the charcoal, in the pores of which oxygen is absorbed, are oxidized and consumed, and the chief products arising from this action are carbonic acid, water and ammonia—the ultimate products of the combustion of animal remains.

Respirators filled with charcoal powder are now worn in hospitals, so contrived as to protect the wearer from noxious exhalations. Filters for atmospheric air, in unwholesome and crowded districts, might be constructed, in which the injurious gases and vapors might be retained and consumed, and only pure air, with a slight admixture of the ultimate products of the combustion of impurities, be allowed to pass. Dwellings may thus be protected from malaria by causing the apertures through which air is admitted to be supplied with charcoal filters. We condense the above from the *Gas Light Journal*.

Mounds in Michigan.—At a meeting of Kent Scientific Institute, Grand Rapids, Michigan, on Sept. 11th, Mr. George W. Smith gave an account of some examinations made of mounds four miles below the city. The group consists of thirteen mounds, which vary in hight from five feet to twenty-five, and in diameter from twelve to sixty feet. Trees of three and four feet in diameter are growing,—and others equally large lie decaying,—upon them. Two vases of pottery, copper and stone implements, bone needles, and a piece of wicker-work, were found. In one mound pieces of flint were seen strewed. The group of mounds occupies an area of 700 by 400 feet. The builders probably were of the same race with those of the mounds further south.

Interesting to the Friends of Science.—F. W. Putnam, of the Peabody Academy of Science, calls upon those disposed to aid the Academy in sending out a collector of specimens to Central and the northern part of South America, for donations. There are no funds of the Institution that can be devoted to that purpose. Mr. J. A. McNiel, an ardent and enthusiastic naturalist, is already in the field, and has just sent home the first installment of specimens, the fruit of his labors since May last. He intends to spend two years upon the matter. On the receipt of specimens at the Academy, they will be arranged at once, and a series selected for the "McNiel collection" of the Academy; the rest will be offered for sale. Any persons who aid the expedition "will receive an equivalent in specimens if desired, as well as the thanks of the Academy."

Meteors and Aerolites.—In the course of some remarks in relation to the meteoric storm of November last, Prof. Wurtz says that whatever might have been the material of which the trains left behind by the meteors were composed,—a point to be determined by the spectroscopists,—it was *solid*, not *gaseous;* and that their light was not that of *incandescence*,—as such could last but a few seconds,—but was that of *phosphorescence*, or else reflected light—probably the former. "What became of this material? We must of course conclude that it settled, or will settle, to become a portion of our solid earth; and further, that the earth is receiving constant accretions in this manner from outer space, since it is rarely that a clear nocturnal sky can be contemplated even for a minute, without witnessing the fiery passage of one of these cosmical 'motes that people the sunbeam,' into our atmosphere. The velocity with which they strike our atmosphere,—twenty-five miles per second, nearly one hundred times the velocity of the swiftest cannon ball,—is sufficient to dissipate them almost instantly into vapor. No chemist will doubt that if a cannon ball can be made to start in motion at anything like this rate, it would instantly kindle and be dissipated as it progressed, in a few seconds, as an elongated cloud of iron-oxide smoke. Occasionally one of these fragments may last long enough to reach the lower and denser atmosphere, and have its motion so retarded that its temperature will fall below the point of combustion or volatilization (it will be *blown out*, so to speak), and reach us as an *aerolite*. Aërolites often show that they have *never been melted*, or even probably red hot, except superficially; a fact which is wholly in accordance with these views, since the whole time of their passage through the atmosphere can be but a few seconds, and there is *not time* for the heat to penetrate into the interior."

American Fossil Botany.—M. Lesquereux says the American continent is "the only part of the world where questions of general significance concerning paleontological distribution can be studied with some chances of satisfactory conclusions." We quote the following from his report:

"The few vegetable remains obtained from the Tertiary of Tennessee and of Mississippi, and from the Cretaceau formation of Nebraska and California, have demonstrated facts which science was scarcely prepared to admit:

"First. That the floras of our ancient formations already had peculiar types, which separated them from each other in the different continents. This is even evident in the vegetation of the coal measures. Therefore, the supposition of a continental union of Europe with America by Atlantides or other intermediate lands, is proved to be untenable.

"Second. That the essential types of the old floras, of the cretaceous and tertiary formations have passed into our present vegetation, or are preserved to our time. The Cretacean of America, for example, has already the Magnolias, which we find still more abundant in our Tertiary. This last formation has furnished a number of species of the genus Magnolia, nearly identical with that now existing in the United States, while the genus is totally absent in the corresponding floras of Europe. More than this; we find in our Tertiary the same predominating types marked on both sides of the Rocky Mountains. On the Atlantic slope, leaves of magnolias, of oaks, of elms, of maples and poplars, and not a trace of coniferous trees; while in California and Vancouver Island, the redwoods or Sequoia, abound in the Cretacean and Tertiary, as now they still form the predominant vegetation of the country."

Preserving Insects.—Dr. S. P. Knox, of Brownsville, Pa., writes to the *American Naturalist*, that after killing his insect with chloroform, he paints it with a solution of carbolic acid in alcohol,—four grains to the ounce,—and then dries it in the sun. It keeps fresh and beautiful. In stuffing animals, he uses cotton soaked in the same solution. He does not even think it necessary to skin them as formerly; but simply removes the contents of the thorax and abdomen.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

FOR THE WEEK ENDING DECEMBER 29th.

85,268.—IMPROVEMENT IN BREECH-LOADING FIREARMS.—Salmon Belden and John F. Crabtree, of Visalia, Cal.

1. We claim the double sliding breech block C, with the chamber J, and the opening spring b, the whole constructed and operating substantially as and for the purpose herein described.

2. The lever B′, and the operating pins I and K, on the tumbler D, or an equivalent device for elevating and depressing the breech-block at one motion, substantially as described.

3. The bent spring g, for holding the shell to one side, substantially as herein described.

4. In combination with the barrel A, and magazine B, I claim the double sliding breech block C, the lever B′, with its two operating pins I and K, and the shell extracting spring g, the whole operating as a repeating arm, substantially as described.

In this gun the necessary mechanism for loading and discharging is very much simplified, and the number of motions required are reduced from three or four to ons.

In the construction, a barrel is employed having a receiving chamber or magazine extending along the top of it. The breech block consists of two pieces hinged together, so as to open laterally, and so arranged as to slide up and down by the simple motion of cocking the gun. As the breech block rises by half-cocking the gun, the two sides gradually separate, and by a simple device the discharged shell is kept at one side of the chamber, so that the entrance of a new cartridge will force it out. The entering cartridge is retained by a stop on the other side until the breech block has been returned to its place and the two sides closed, which is done by fully cocking the gun. This brings the cartridge in a line with the barrel, in which position it is fired.

The same mechanism is peculiarly adapted to repeating pistols, and forms at the same time the simplest and strongest arrangement yet discovered, its strength depending on the amount of metal on each side of the breech block.

85,269.—IMPROVEMENT IN EXPANSION WAGON WHEELS.—Salmon Belden, of Visalia, and Johnson P. Ford, of Santa Clara, Cal. (Antedated Dec. 24th, 1868.)

We claim the double clamp E, E, and wedges F, F, for forcing the joints of the felloes together, substantially as described.

The nature of this invention is to provide a wagon wheel so constructed that the felloes can be made to expand against the tire, and avoid the necessity of cutting and upsetting of the tire.

To do this the outer end of ordinary spokes of the wheel is shortened or turned off, and when shortened a bolt or pin is introduced into the end of the spoke, passing up a considerable distance and extending through the felloe in the ordinary way. Nuts are permanently attached to the inner face of the felloes having openings through which the exterior spokes pass. A hollow screw with a band is placed on the extension rods, and when turned up the nuts and felloes are pressed out against the tire, and when turned in an opposite direction the felloes are released from their pressure, admitting of an easy adjustment of the wheel against the tire.

By this construction it is intended that the head of the hollow screw shall rest against the shoulder formed by cutting away the end of the spoke.

85,279.—IMPROVEMENT IN DERRICKS.—Angus Campbell, of Downieville, Cal.

1. I claim the tuck D, consisting of the bow *a*, swinging frames *b*, *c*, and concave rollers *d*, substantially as herein shown and described.

2. The rope G, when arranged as described to brace the boom by being fastened to the truck sliding thereon for the purpose of relieving the topping-lift C, as specified.

3. The hook H, having the nut X, ring *w*, and link *v*, arranged substantially as and for the purpose herein shown and described.

4. The chain O, bar P, lever R, and arm *c′*, in combination with the hook H, nut x, ring *w*, and link i, arranged as described for the purpose specified.

85,371.—IMPROVED QUICKSILVER FURNACE AND CONDENSER.—Thos. W. Dresser, of San José, Cal.

1. I claim the separating walls L, L, in the vapor chamber, with the upper connecting passages M, M, and lower passages N, N, together with the condensing troughs *o*, *o*, the whole constructed and operated substantially as and for the purpose described.

2. The siphon water pipe X, and the pipe b, from the vapor chamber, or equivalent device for withdrawing the vapor by means of a vacuum, and condensing it in its passage, substantially as herein described.

3. The cylinder e, with the buckets g, operating as shown for producing a vacuum and forcing the vapor beneath the water in chamber *d*, and the vapor pipe i, constructed and operated substantially as and for the purpose described.

4. I claim the two flues m and n, with the dampers t, t, t, for regulating the draft, or by closing them entirely to cause a draft through the siphon tube, and the condensing chamber j, substantially as described.

5. I claim constructing the foundation with the inclined impervious plates A, A, and the channels D, between the courses, together with the collecting channels B, substantially as and for the purpose described.

6. I claim a draft as created by the siphon tube X, the endless chain and its buckets g, g, or equivalent device for condensing the vapors and gases which escape from chemical works, for retorting gold and silver amalgams, and for withdrawing and condensing gold that would be lost in melting and refining, substantially as herein described.

The object of this invention is to provide an improved furnace and condenser for the reduction of quicksilver, and other ores of a similar nature, so that the whole operation is conducted with a very small loss of the vapor, which, together with the gases, generated by the heat of the furnace, are drawn and forced through tanks of water, thus effectually condensing all that is capable of it, before the residue is allowed to escape by the flues.

It also relates to an improved method of constructing the foundation, so that the waste which usually occurs by the quicksilver passing through the foundation, is effectually avoided and the whole operation is rendered more economical.

This is effected by constructing a foundation upon which is placed a double inclined plane of iron or other impervious metal, the two planes meeting and forming a trough in the center, by which any escaping quicksilver is carried to a receiver. The planes may be plastered and polished, and used either with or without the iron.

Above this the furnace is finished with a grate for fire, a chamber for the ore, over and through which the heat passes, and a vapor chamber with diaphragms or walls extending across it at intervals. These walls have openings alternately on opposite sides, and a series of troughs between them, through which water is constantly passing.

Above the furnace is placed a tank of water with a siphon tube leading from it to another tank below. A tube leading from the top of the vapor chamber enters this siphon tube, and the water passing down the former, draws and forces the quicksilver vapor into the lower tank in which, and during its passage, it is completely condensed. Still another chamber is so arranged and connected with the lower siphon tank, as to take the water and lead it into an upright tube about one-third of the distance from the top, so that the weight of the water acts on a series of buckets on an endless chain, and forces them down, each carrying with it a portion of vapor drawn from the principal chamber, and condensing it, thus doing about double the work that the siphon would do alone. The escape flues have a series of valves or dampers for stopping or changing the direction of the escaping gases, while a final condenser is constructed at the base of the chimney.

85,398.—COVER FOR POTS, KETTLES, ETC.—Geo. Reuben, of San Francisco, Cal.

I claim a cover for cooking and other vessels having the opening C, covered with wire gauge or perforated tin surmounted by the flange D, the whole surmounted by the cover E, locking into the angular slots *c*, *c*, arranged substantially as herein described.

This cover is so constructed that the steam may be permitted to escape without danger of any foreign substance falling into the vessel. It is also a great convenience in pouring off water from the vegetables being cooked, as by merely taking up the vessel with the hands and turning it upside down, the water may be turned off without breaking or injuring the vegetables, and it consists in making a hole in the top of the cover which is covered with wire gauze or perforated tin. A flange is made around this opening, over which a small cover is placed and secured by means of pins on the inside of the rim which lock into angular slots in the flange. The upper cover can be removed and the steam allowed to escape from the cooking vegetables, or it can be allowed to remain and thus present the same appearance as an ordinary cover. The inventor is an ex-printer, and a well-known genius.

85,402.—IMPROVED SHACKLE AND SUPPORTER.—Wm. Riley, of Salem, Oregon, assignor to H. Carpenter, of same place

1. I claim the improved shackle A, B, with the tongue G, and mode of fastening upon the ankle, substantially as herein described.

2. The supporter E, and the mode of fastening the sams to the shoe by means of the *strap* I, and heel plate J, constructed and arranged substantially as herein set forth.

3. The mode of preventing the shackle from turning on the ankle by means of the stops L, L, as specified.

85,409.—IMPROVEMENT IN RAILROAD TICKETS AND PUNCH FOR CUTTING COUPONS THEREFROM.—Henry M. Stow, of San Francisco, Cal.

1. I claim a ponch ticket adapted to contain change with a coupon printed thereon or attached thereto, substantially as and for the purpose set forth.

2. In combination with an instrument for securing coupons and automatically depositing them in a box or other receptacle, substantially as described, I claim a needle so located in the box or other receptacle that it will perforate and retain upon it each coupon as it is deposited, and which, on being withdrawn, will draw a thread through all the said coupons, as set forth.

3. In combination with an instrument for severing coupons and automatically depositing them in a box or other receptacle, substantially as described. I claim a sliding cover to such box or other receptacle, which will automatically slide over the box or other receptacle, and close it when the jaws of the instrument open and receive from said box when the jaws close, the same being operated substantially as herein described.

4. In combination with an instrument for severing coupons from tickets, substantially as described, I claim a needle so located in relation to the cutting head or other equivalent cutting device, that it will pierce and retain upon it each coupon as it is cut off, and so constructed and arranged that by withdrawing it from said coupons it will draw a thread through all of them, substantially as and for the purpose specified.

5. In combination with the cutting head and retaining box herein described, I claim the case or shield D, substantially as and for the purpose set forth.

85,474.—IMPROVEMENT IN FARM GATES.—Albert J. Potter, of Omaha, Nebraska.

I claim the gate A, bolt *h*, lever F, bevel wheel D, cogged segment D′, shaft *d*, cylindrical bar C, lever E, cords *e*, *f*, *g*, and posts B, B, B, B, all combined, constructed, arranged and operated, substantially as and for the purpose set forth.

RE-ISSUES.

3,244.—IMPROVEMENT IN GANG PLOWS.—Robert Baxter, of French Camp, Cal. Patented Aug. 6th, 1867.

I claim a standard for the support of the mold-board, or other like parts of a plow formed in one piece with a projecting head for the attachment of the beam, substantially as described.

FOR THE WEEK ENDING JANUARY 5th.

85,578.—IMPROVEMENT IN HORSE-POWER Charles F. Gay, Albany, Oregon.:

1. I claim the combination of the pivoted circular platform D, wheels F, and spirally-flanged cylinders or drums C, with each other, and with the platform A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the band I, and band pulleys H, with the cylinders C, substantially as herein shown and described and for the purpose set forth.

3. The combination of the hand wheel K, with one of the flanged cylinders C, substantially as herein shown and described and for the purpose set forth.

4. The combination of the gear wheel L, gear or pinion wheel M, shaft N, and band wheel O, with one of the flanged cylinders C, substantially as herein shown and described and for the purpose set forth.

5. The combination of the gnide pulleys R, and pulley box Q, with the driving hand P, substantially as herein shown and described and for the purpose set forth.

85,588. — IMPROVED BOTTLE STOPPER.—John T. Haviland, San Francisco, Cal.:

I claim a top for bottle-stoppers, consisting of the tapering holding-ring B, and the screw-cap C, the whole connected and arranged substantially as and for the purpose described.

85,606.—IMPROVEMENT IN PACKING FOR STEAM ENGINE PISTON RODS.—David Neahr, Fort Yuma, Cal.:

I claim the construction and arrangement of the series of rings D, E, box G, spring C, and follower F, substantially as shown and described.

85,621.—IMPROVEMENT IN GANG PLOWS.—Z. T. Sweet, Eugene City, Oregon.:

1. I claim the combination of the cam spring H, rock shaft I, foot piece j, and staple *h*, with the side bars *a*, *a*, block *h*, catch *i*, and beams G, all arranged and operating as described for the purpose specified.

2. The arrangement of the rack *d*, and the angular lever D, with the slotted guide plate d, upon the axle and the slide c, upon the arm b, of the wheel B, whereby the weight of the cultivator holds the lever locked in any desired position, as herein shown and described.

85,623. — IMPROVED COMPOSITION TO BE USED IN THE MANUFACTURE OF SOAP.—Richard P. Thomas, San Francisco, Cal.:

I claim utilizing resinous substances and rendering them soluble in water by combining them with the substance, and in the proportions herein described.

85,676.—IMPROVEMENT IN SHINGLE MACHINES.—Isaac I. Lancaster, Vancouver, Washington Territory.:

1. I claim the guide plates M, M, constructed with straight and oblique grooves m, m, and employed in combination with the riving-knives J, J, substantially as and for the purpose set forth.

2. The pair of reciprocating knives J, J, and the feeding mechanism R, S, U, V, operated by the return stroke of one of the said knives, all substantially as and for the purposes herein set forth.

The following was issued Dec. 15th, 1868, but was inadvertently omitted in the Commissioner's report to us:

84,860.—HAIR CUTTING SHEARS.—Lee D. Craig, Nevada City, Cal.:

In combination with the blades *A* and *B*, the comb *F*, adjusting plate *E*, set-screw *D*, and lug *C*, the whole forming a hair cutting shears, substantially as described.

This invention is to provide an improved attachment for shears to be used for hair cutting. The improvement consists of a sliding slotted plate, which may be moved up and down in a plane at right angles with that in which the blades of the shears move, and held at any point by a set screw. Below the blades this plate is bent at right angles and has a short comb fastened to it, so that the comb is parallel with the blades, and hold it till it can be cut. It also regulates the length, which is determined by the point at which it is set.

THE attention of mechanics and others is called to the card of Messrs. Noble & Fleming, who have opened machine works at No. 10 Stevenson street. They pay particular attention to repairing engines as well as all kinds of wood working machinery. They are agents of the Davis wood planer and dove-tailing machines, together with a variety of other tools, indispensable to the mechanic.

THE OHIO EXCAVATOR AND DITCHER, of which a number are being made for Capt. Burns at Casebolt's carriage factory, and which was worked at the late State Fair, is now in use on the Western Pacific Railroad, and said to be giving satisfaction. It is a large scoop mounted on two wheels, and adjustable as to the depth of the ditch to be made; behind it is a belt arrangement, by which the earth is carried back as soon as brought up by the scoop, and deposited in a cart having a bottom which drops out when the dirt is to be dumped. The advantage is that a full load of dirt is carried away on wheels at once, and may be deposited at any place desired,—obviating the frequent trips, great friction, and small loads in the use of the scraper. The price of the excavator is $450.

Weekly Stock Circular.

By Associated Brokers of the S F Stock and Exchange Board.

SAN FRANCISCO, January 23, 1869.

City Stocks.

We note the following transactions in other than mining shares: A large amount of Spring Valley Water stock, at $566@66 75 per share; San Francisco Gas, at $80 @82; Oakland Railroad, at $52.

In addition to our previously announced dividends of the Savings and Loan Societies of this city, we add that of the French, which disburses 11 per cent. per annum, net, to its depositors.

From the Annual Statement of the Pacific Insurance Company, of this city, made on the 1st inst., we take the following:

Capital stock (gold)	$1,000,000 00
Amount in excess of capital, available to pay losses and dividends	529,540 18
LIABILITIES.	
Losses in process of adjustment	43,832 84
Amount required to re-insure outstanding business, being 50 per cent. of unexpired Fire Premiums and all Marine Premiums	279,628 77
Total	$328,461 61
DISBURSEMENTS.	
Amount paid for Fire losses	$203,248 25
Amount paid for Marine losses	148,892 48
Dividends paid stockholders	60,000 00
Paid for commission to agents	50,617 55
Salaries of officers, attorneys and employees	49,184 18
State and Federal taxes paid	40,236 05
Amount of all other payments and expenditures	101,453 32
Total	$653,631 83
Net amount of Fire risks written during the year	$40,452,740 00
Net amount of Marine risks written during the year	20,788,181 00
Amount of Fire risks in force Dec. 31, 1868	33,372,804 00
Amount of Marine risks in force Dec. 31, 1868	2,865,866 00

Deducting the losses in process of adjustment, together with the amount required to re-insure the whole outstanding business of this company, the same being calculated at the rate of 50 per cent. on all unexpired premiums, which the above statement shows as liabilities, would leave a net balance of $201,278 57.

The statement of the California Insurance Company for the year ending December 31, 1868, shows assets amounting to $309,296, including $200,000 capital; liabilities, including amount required to re-insurance outstanding risks, $70,126. The receipts of the company for 1868 were $165,259, of which $115,271 was for premiums. The expenditures were $150,703, including $76,895 for losses and $48,000 for dividends to stockholders. The amount of losses for the year, including those reported and disputed was $68,924. The net amount of marine risks written was $4,186,437, while the amount outstanding on the 31st December was $1,178,583, on which the premiums were $75,873.

From the annual statement of the Merchants' Mutual Marine Insurance Company, we learn that their paid up capital is $500,000; surplus above capital, $182,186, making total assets of $682,186. The amount of liabilities on the 31st of December, 1868, not including amount required for re-insurance of outstanding risks, was $44,658; amount of outstanding risks at the close of 1868, $3,134,583.

Mining Share Market.

In regard to mining share transactions, we may state that the market has been quite variable, but the present condition of the Comstock Lode, if anything, looks more hopeful, most developments tending to a better state of things in the course of a few months. We might reiterate here what we stated in our last issue regarding the construction of a railroad from Virginia City to the Truckee River, which has already received the pledged aid of a number of the most prominent companies, for the purpose of enabling the reduction of the low class ores, which are now unavailable. This project has already improved the several stocks, and its completion will undoubtedly advance them to a marked extent.

The report of the Amador Mining Company for fifteen months, ending January 1, 1869, is before us, and from it we make the following extracts: From 30,794 tons of ore reduced during the period under review, $658,378 70 in bullion was obtained, showing an average yield of $21 50 per ton.

RECEIPTS.

The total receipts from October, 1867, to January 1, 1869, aggregate	$679,651 45

DISBURSEMENTS.

Dividends, No. 1 to No. 16	$340,400 00
Mine	168,512 16
Eureka Mill	52 111 22
Badger Mill	15,479 51
Rose Mill	7,185 45
Construction account	26,942 03
Real estate	26,000 00
General expenses and salaries	8,736 14
Office expense	4,058 88
Sundries	12,744 35
Bills receivable	5,800 00
Cash on hand January 1, 1869	11,681 59
	$679,651 45

The assets are stated at $98,129 98. The total mining expenses have been $4 67 per ton, and for milling, $2 30 1-10, making an aggregate of $6 97 1-10 per ton. The President, in his report, says that, "Somewhat less than a year since, this mine was examined and reported upon by eminent engineers, who estimated the reserves then in sight at 108,000 tons, possessing, in place, a net value of $850,000. Since that report, there have been extracted and reduced 21,700 tons, yielding $464,250 gross." A dividend of $6 per share will be paid on and after the 20th instant. The receipts of bullion to date on January account foot up $23,000. The Badger drift is in some twelve feet, showing a vein from twenty inches to two feet thick, and is looking fine. It is believed the rock will go $100 to the foot.

Hale & Norcross was in good request early in the week at an advance, but at the close shows a very material recession. On the 18th inst. the south breast was about five feet wide at the top and six feet at the bottom. Assays of this ore went from $40 to $52. Later news shows these developments to be less promising. In the north cross-cut they have made thirty feet without reaching ore, and have not yet reached any cast clay. On the third station a tunnel is being constructed to the main tunnel, in order to reach the point where the ore is found. The drift is nearly completed, and they will soon be ready to sink a winze.

Kentuck has received bullion to the amount of $34,112 on January account; and Crown Point $9,491....Eureka (Cal.) paid a dividend of $5 per share on the 20th, and Amador (Cal.) $6 per share on the same day.

Chollar-Potosi, for the week ending Jan. 15th, shows an ore yield of 600 tons. At the 1,100 level drift water came in at the face of the drift on the 11th instant, but has since decreased, and is said to flow from porphyry alone. At the 920 level thirty feet had been made, through a mixture of clay and porphyry, the seams of which are horizontal, or nearly so.

Golden Chariot (Idaho) is one of the recent stocks brought into the market. The location consists of 750 feet. The stock is divided into 10,000 shares. A dividend of $2 50 per share was paid on the 20th inst. From 293 tons of ore they obtained $55,000, giving nearly $200 to the ton. They had a surplus of $31,099, after paying expenses in December, and deducting the dividend, have $6,000 on hand.

Overman received $3,441 87 in bullion on the 17th, and $2,481 72 on the 19th....The 1,000 level of the Empire has been opened and a drift run some four feet....Daney levied an assessment of $2 per share on the 9th....Ophir is destined to be an active stock so soon as drifting will be commenced from the lower levels. The 700 level will be reached, it is thought, within a month, and then drifts will be simultaneously started from the 600 and 700 levels....Belcher shows a rapid rise. The office is now located in this city, with the Secretary of the Kentuck Company. The stock, on its new basis—ten shares for one formerly issued—is quotable at the close at $18@20 per share.

We call the attention of the reader to the annexed table, the same being a monthly statement relative to most of the stocks dealt in at the Board, showing the highest and lowest prices monthly of the last quarter of 1868, of twenty-three companies, together with the bullion yield, assessments levied and dividends disbursed during the same time, giving also totals of 1867 and 1866. With the exception of the Yellow Jacket Company, it is very complete. That company, during the fiscal year ending June 30th, produced $680,000 in bullion, of which no account is given in our table, for the reason that we have been unable to obtain the monthly yield from time to time. Taking the above amount as a basis, we find a bullion product for said company of about $60,000 per month.

COMPANY.	OCTOBER. Highest Price.	OCTOBER. Lowest Price.	OCTOBER. Bullion.	OCTOBER. Assessment.	OCTOBER. Dividend.	NOVEMBER. Highest Price.	NOVEMBER. Lowest Price.	NOVEMBER. Bullion.	NOVEMBER. Assessment.	NOVEMBER. Dividend.	DECEMBER. Highest Price.	DECEMBER. Lowest Price.	DECEMBER. Bullion.	DECEMBER. Assessment.	DECEMBER. Dividend.
Alpha	$ 59 00	$ 36 00		$36,000		$ 50 00	$ 25 00				$ 47 00	$ 33 00		$60,000	
Belcher	150 00	120 00				150 00	110 00				150 00	95 00			
Bullion Point	60 00	40 00				60 00	40 00				50 00	40 00			
Confidence	60 00	40 00	$45,650			60 00	40 00	$22,825			60 00	40 00	$11,413		
Chollar-Potosi	275 00	225 00	132,888			275 00	225 00	102,722			225 00	145 00	106,336		
Daney	8 00	4 00				8 00	4 00				4 00	3 00			
Exchequer	5 00	3 00				4 25	3 00				3 00	2 00			
Empire M. & M. Co.	100 00	80 00	16,894			100 00	80 00	16,903			90 00	80 00	15,574		
Gould & Curry	100 00	80 00	5,859			100 00	80 00	4,853			90 00	80 00	72,000		
Hale & Norcross	100 00	50 00	9,104			60 00	50 00	2,265			50 00	40 00	11,285		
Gold Hill Q. M. & M. Co.	80 00	60 00	26,841			60 00	50 00	10,013			50 00	40 00	10,875		
Kentuck	18 00	9 00	38,227			15 00	9 00	35,944			15 00	9 00	44,288		
Justice and Independent	9 00	4 00		60,000		6 00	4 00				5 00	4 00		100,000	
Lady Bryan	50 00	30 00			$50,000	50 00	30 00			$40,000	50 00	30 00			$50,000
Ophir	20 00	10 00	68,135			20 00	10 00	86,057			20 00	10 00	58,382		
Overman	18 00	9 00				18 00	9 00				15 00	9 00			
Segregated Belcher	24 00	9 00	33,000			24 00	9 00	34,000			25 00	9 00	60,338		
Savage	75 00	50 00	5,190			75 00	50 00	5,514			60 00	50 00	7,068		
Sierra Nevada	17 50	9 00				17 50	9 00				17 50	9 00			
Yellow Jacket	1,250 00	800 00	126,000			1,250 00	800 00	135,760			1,200 00	800 00	152,000		
Amador, (Cal.)	300 00	200 00				300 00	200 00				300 00	200 00			
Total in 1868	$1,853 50	$1,336 00	$691,920	$306,000	$138,500	$1,820 00	$1,335 00	$1,040,172	$64,000	$40,000	$1,690 00	$1,260 00	$1,029,587	$160,000	$50,000
Total in 1867	1,853 50	1,336 00	1,032,718	265,000	210,000	1,820 00	1,335 00	898,120	132,000	80,000	1,690 00	1,260 00	646,628	145,600	130,200
Total in 1866	1,853 50	1,336 00	1,032,718	166,620	167,200	1,820 00	1,335 00	898,120	34,000	80,000	1,690 00	1,260 00	646,628	128,000	130,200

STOCK CERTIFICATES,
STOCK TRANSFER JOURNALS,
STOCK LEDGERS,
ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press*.

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. RUFFINGTON,
Room 37, New Merchants' Exchange, California street
San Francisco 17v15-tf

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Amador Co., dividend, $6 per share	Payable Dec 19, 1868	
Alpha, Storey co, Nev., Dec. 3, $10	Jan. 5	Jan 25
Alaska, Lyon co., Nev., Nov. 25, 50c	Dec. 31	Jan. 30*
Adriatic, Storey co	Special Meeting, Jan. 28	
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Belcher, Storey co, Nev., Dec. 31, $25	Jan. 30	March 2
Crown Point, Storey co., Dec. 18, $7 50	Jan. 23	Feb. 15
Chalk Mountain, Nevada co., Jan. 13, $2	Feb 15	March 8*
Cherokee Flat, Butte co., Dec. 9, $5	Jan. 11	Jan. 26
Chollar Potosi, div., $2 5	Payable Dec. 15, 1867	
Crown Point, dividend, $7 50	Payable Sept. 12 1868	
Cosala, Sinaloa, Dec. 12, $1	Jan 15	Feb. 4
City R. R, San Francisco, Jan. 6, $5	Feb. 10	March 6
Daney, Lyon co., Nev., Jan. 9, $2	Feb. 12	March 1
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Gold Hill Cons., Storey co., Jan. 8, $4	Feb. 13	March 1
Gould & Curry, Storey co., Nev	Dec. 5, $15	Jan. 9—Jan. 29
Gould & Curry, div., $7 50	Payable May 15, 1867	
Golden Chariot, Idaho, div., $2 50	Payable Jan. 10 1869	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, div 50c	Payable Dec. 26*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 11	Jan. 28*
Humboldt Canal co	Special Meeting Jan. 27	
Morning Star, Alpine co., Dec. 9, $2 50	Jan. 11	Feb. 1
North Amer. Wood P. Co., Jan. 13, $1	Feb 18	March 8*
North Star, dividend, $5	Payable Aug. 15, 1868	
Oriental, Sierra co, Jan. 4, $2.50	Feb. 5	Feb. 20
Peninsula, Storey co., Dec. 15, $10	Feb. 11	March 6
Pacific Unassessable, div	Payable June 18, 1868	
Rattlesnake, Yuba co, Dec. 19, $7.50	Jan. 21	Feb. 8*
Rippon, Alpine co, Oct. 15, $1	Sale Jan. 23*	
Rising Star, Idaho, Nov. 16, $10	January 4	Jan 20
San Juan Bautista, Santa Clara co	Sale Jan. 30	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Savage, Virginia, Nev, dividend, $4	Payable Dec. 12, 1868	
Santa Rosa Spring Salt, dividend $1	Payable Jan 5, 1869	
Talluiah, Humboldt co., Dec. 11, $17.50	Jan. 29	Feb. 27
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15	Jan 30*
Virginia & G. H. Water Co.-Dividend, payable Nov. 20, 1868		
Yellow Jacket, div., $100	Payable Jan. 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, January 22, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 83	83¼
United States Bonds, 5 20s, 1864	81	82
United States Bonds, 5 20s, 1862	82	82½
Legal Tender Notes	74	74¼
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & Int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & Int.	
San Francisco City and Co. Sch'l Bds., 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	87½	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co. Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	24	—
Sacramento County Bonds, 6s	65	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	65	70
Spring Valley Water Co	66¾	67½
State Telegraph Co	25	—
GAS COMPANIES.		
San Francisco Gas Co	81	84
Sacramento Gas Co	—	75¾
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	49	52
North Beach and Mission Railroad	67½	70
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	126	127
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	57½	58
Baltimore American	—	—
Belcher	18	20
Bullion, G. H	30	34
Crown Point	65	65½
Cole (Va.)	—	—
Confidence	36	—
Consolidated Virginia	8	12
Chollar-Potosi	169	170
Daney	2½	3
Exchequer	27	27¾
Empire Mill and Mining Co	125	128
Gould & Curry	109	0
Gold Hill Quartz	60	61
Hale & Norcross	58	59
Imperial	138½	139
Julia	—	4
Justice and Independent	4	5
Kentuck	240	235
Lady Bryan	15	16½
North American	10	12
Ophir	36	—
Overman	78	78¼
Segregated Belcher	8¼	9
Savage	78½	79
Sierra Nevada	28	30
Yellow Jacket	1335	1410
Union	—	—
United States	—	—
MISCELLANEOUS MINING STOCKS.		
Amador (California)	235	240
North Star (California)	—	—
Eureka (California)	210	—
De Soto (Humboldt)	—	2
Golden Rule, California	12	13

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, January 22, 1869.

Flour, Extra, ₱ bbl	$6 25	@$6 75
Do. Superfine	4 25	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 75
Oats, ₱ 100 lbs	2 10	@ 2 37½
Barley, ₱ 100 lbs	2 10	@ 2 25
Beans, ₱ 100 lbs	6 00	@ 8 50
Potatoes, ₱ 100 lbs	50	@ 80
Hay, ₱ ton	14 00	@20 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	7	@ 8
GROCERIES, ETC.		
Sugar, crushed, ₱ lb	17	@ 17½
Do. China	10	@ 12½
Coffee, Costa Rica, ₱ lb	18	@ 18½
Do. Rio	—	@ 17½
Tea, Japan, ₱ lb	75	@ 90
Do. Green, ₱ lb	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 50
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	40	@ 50
Isthmus Butter, ₱ lb	35	@ 40
Cheese, California, ₱ lb	15	@ 20
Eggs, ₱ dozen	45	@ 50
Lard, ₱ lb	12	@ 13
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	6	@ 8
Retail Prices.		
Butter, California, fresh, ₱ lb	60	@ 65
do. pickled, ₱ lb	30	@ 35
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 45
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	50	@ 60
Lard, ₱ lb	15	@ —
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	1 25	@ 1 50
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ —
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ —
Plums, dried, ₱ lb	10	@ 12
Peaches, dried, ₱ lb	10	@ 12
Oranges, ₱ dozen	75	@ —
Lemons, ₱ dozen	75	@ —
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	—	@ —
Soap, Pale and C. O.	—	@ 12
Soap, Castile, ₱ lb	—	@ 20

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

METROPLITAN M. & M. Co.—White Pine, Nev. Jan. 15th. Trustees: Alpheus Bull, E. Hindman, J. C. Collins, Peter Johnsod and Geo. W. Clark.

DIAMOND SILVER MINING Co.—Lander County, Nev. Jan. 15th. Capital stock, $1,400,000; 14,000 shares, $100 each. Trustees: John Bamber, Isham Case, D. D. Cook, J. R. White and F. H. Wells.

BISMARCK MINING Co.—White Pine, Nev. Jan. 18th. Capital stock, $200,000; 2,000 shares, $100 each. Trustees: John F. Taylor, W. H. Sears, John Nightingale, R. P. Franklin and James T. Godfrey.

VIRGINIA No. 2 MINING Co.—White Pine, Nev. Jan. 18th. Capital stock, $80,000; 8,000 shares, $100 each. Trustees: P. Clough, Eugene B. Drake, John F. Mitchell, John W. Coleman and J. C. Steinbergan.

WHITE PINE SMELTING Co.—White Pine, Nev. Jan. 19th. Capital stock, $50,000; 1,000 shares, $50 each. Trnstees: George Cofran, D. D. Shattuck and W. P. C. Stebbins.

WHITE PINE MUTUAL M. & M. Co.—White Pine, Nev. Jan. 19th. Capital stock, $1,000,-000. 10,000 shares, $100 each. Trustees: A. W. Blair, Dr. John Grant, O. P. Sutton, John Nightingale, J. E. De la Montagnie, John A. Stanley and F. G. Smith.

WHITE PINE WATER Co.—White Pine, Nev. Jan. 21st. Capital stock, $1,000,-000; 1,000 shares, $1,000 each. Trustees: A. W. Von Schmidt, Thos. Bell, W. C. Ralston and Alvinza Hayward.

DOLOMITE CONSOLIDATED MINING Co.—White Pine, Nev. Jan. 21st. Capital stock, $500,000; 500 shares, $100 each. Trustees: Joseph Osborne, C. E. Barry, E. W. Leonard, J. L. Howard and J. C. Spencer.

ELECTION OF OFFICERS.—SAN FRANCISCO GAS Co.—Jan. 18th. Directors, J. A. Donohoe, John Parrott, C. E. McLane, J. D. Walker and J. G. Eastland; President, J. A. Donahoe; Secretary, Joseph G. Eastland.

A GRECIAN BENDER ON THE RAMPAGE.—A few days since one of our fashionable belles sauntered into one of our city drug stores, and inquired of the young man in attendance if they had Magnolia Water. Upon being answered in the affirmative, she said she would take a bottle. Whereupon the young man proceeded to do up the package, but was interrupted by the young lady remarking that if what he was doing up was for her, he had made a mistake; that it was not PLANTATION BITTERS, but Magnolia Water, which she inquired for. He excused the mistake by telling her that she appeared to have the "Grecian Bend," or *colic stoop*, very bad, and knowing that Plantation Bitters were highly recommended, supposed that was what she wanted. Whereupon she grew wrathy, and retorted that he was a sickly, bilious Pill, and by all means to take it himself, it would do him a power of good. She procured the Magnolia Water, and left the store highly indignant. *

THE VELOCIPEDE, we understand, has made its appearance, as might have been expected, at Woodward's Gardens. There is nothing new or old, strange or wonderful, in the animal, vegetable or mineral kingdoms, that cannot be found either in the cabinet or on the grounds. *

IF the type of your evening paper begins to look small, dim and indistinct, you will find a remedy by applying to C. MULLER, 205 Montgomery street. You will obtain a pair of spectacles adapted to your eyes. *

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Chronicle, Jan. 9th: At a distance of 100 ft. from the mouth of the tunnel and 65 ft. from the surface, the Michigan Tunnel Co. have this week struck some good looking ore which resemble the Tarshish ore.

The report of the several officers of the Mountain Tunnel Co. shows that the tunnel is in close proximity to the ledge, which is liable to be struck any moment. A large number of companies having claims on the ledge will start work as soon as the Mountain Co. get into paying ore.

AMADOR COUNTY.

Jackson *Ledger*, Jan. 16th: There is now at the mill of the Amador Co. 2,000 tons of quartz, and there is also 500 tons on the two dumps. The company are running 72 stamps day and night, but with this capacity for crushing they are not able to keep up with the yield of rock from the mine.

A fine quartz mill is being fitted up at Tibbit's foundry, to be used in crushing rock taken from the Anaconda mine at Pine Grove.

CALAVERAS COUNTY.

Mokelumne Hill *Chronicle*, Jan. 16th: A fifth interest in Chapman, Hopper & Co's quartz lead, located near Railroad Flat, has recently been sold for $3,000.

The Lower Rich Gulch correspondent writes: Mining has again been started and work resumed on most of the claims here, with a renewed vigor. At the Palomo mine they are not taking ont ore at present, but are engaged in connecting their north and south levels, in order to drain the water to their south shaft. The next mine adjoining the Palomo, is Alexander & Co's. They have a 10-stamp mill running night and day, pounding out the precious metal. They are now working from their lower level, 100 ft. below their former one, and are getting better ore than they ever have had since they opened the mine....The Norton claim has been recently purchased by Mr. Smith, of Grass Valley, and work has been again commenced with good prospects of striking the vein. Should they be successful in getting a vein there, a first class mill will immediately go up. From present appearances, Rich Gulch has as good a prospect in the future as any mining locality in Calaveras County.

MARIPOSA COUNTY.

Mail, Jan. 15th: Hambleton's quartz mill, situated near Bridgeport, has been crushing rock for several weeks past. No clean up has yet been made.

NEVADA COUNTY.

Transcript, Jan. 14th: The American mining claim at Sebastopol, has for several years been one of the leading gravel claims of the county. The yield has been regular and the amount about the same at each clean up. The last two runs made have yielded as well as the preceding ones; the first being $12,000 and the last $14,000.

The mining prospects at Columbia Hill are exceedingly encouraging. The mining companies are preparing for work, and the mines have, many of them, passed into the hands of capitalists, who are able to open the ground at a lower grade than has yet been worked. The Union Gravel Co. are employing a large number of men, and will open their claims to a great depth. The Columbia Hill basin has yielded a large amount of money, and the bedrock has never yet been reached. Of late years men of capital have become interested, and the mines will be opened to a greater depth, and made to yield larger than heretofore. The French Co. has extended its ditch to the Hill, and the prospect is that the water rates will very soon be reduced.

One-half interest in the Hawes & Co's claims at Rough and Ready, has been purchased by a Mr. Gibbon.

Mining in the immediate vicinity of San Juan has not been very lively for a year or two past, but there is now a prospect for the resumption of work on San Juan Hill. County Surveyor Bradley is engaged in making a survey for a tunnel for the Empire Mining Co., on the Hill, and it is thought work will soon be commenced.

Jan. 17th: Nevada district has several mines which bid fair to make for it a reputation among quartz mining localities. The Banner Co. will soon start up their new 40-stamp mill, and during the next season they will have abundance of rock to keep them constantly employed. The New York Co. has resumed operations on the old Sneath & Clay mine. The Pittsburg has recently started up new hoisting works, and is now better prepared for work than ever before. Besides these old established mines there are a number which are being prospected, several of which promise to yield largely.

Gazette, Jan. 12th: The IXL Co. at Moore's Flat, cleaned up last Saturday over $4,000. The company have been obliged to suspend operations for the winter, on account of the heavy storm.

A blast of 100 kegs of powder will be set off in the Manzanita claims of Maltman & Marselus, some time this week. A tunnel has been run 65 feet into the bank, which at that place is 70 feet in hight, and from the head of the tunnel there is a cross drift 60 feet in length. The powder will be placed in the cross drift, the tunnel filled with gravel, when the blast will be set off.

The Willow Valley mine is promising well. Twenty tons of rock crushed last week at the Oriental mill, yielded $55 per ton.

Haroun & Co. have struck rich gravel on the Rocky Bar claims, half a mile above Washington. The claims of Battis & Co., which were flooded two weeks ago, have been pumped out, and work is again resumed with a full complement of hands.

Grass Valley *National*, Jan. 13th: The mill of the Empire Co. at French Corral is now doing a good business; while the Nebraska claims, owned by Ponlinier & Coleman, have been paying largely. The latter company have recently put in a submerged pump to free their claims of water, which is found to work admirably. The cement is composed of a gray sand, in which one would hardly expect to find gold, but it yields large returns.

Jan. 16th: We are informed by O. Sweeny, that he has sold 500 feet of the Grass Valley ledge for $3,000 cash.

Grass Valley *Union*, Jan. 14th: The Seven-Thirty Mining Co. have been in a lawsuit for some time past, and now that they have gained it, will go ahead to take out rock which will pay them as well as did their first crushing. Then they made something over $1,000 per day for all the company.

Jan. 15th: There has been no falling off in this district during the past week, either in the number of mines being worked, or in the average yield of pay. The Empire, of Ophir Hill, has backs enough to go on for three or four years. The Empire will surely pay large dividends from this time forward. The Idaho and the Eureka are keeping up their average pay, or perhaps going a little ahead of their average. In the northern part of the country, hydraulic mining is active, and the pay promises to be large. In this immediate vicinity the placer mines have not been worked as yet this winter, to any extent.

Gazette, Jan. 19th: Fogarty and Fitzsimmons lately purchased a body of cement claims, situated near the South Yuba, below Jones' Bar, for which they paid $4,000. They took out several tons of the cement, and worked it by mill process, and the yield largely exceeded their expectation. The claims are extensive, containing 3,000 feet along the deposit, and in view of the rich yield of the cement, are now considered very valuable. The owners purpose erecting a mill at once to work the claims.

Grass Valley *Union*, Jan. 19th: Yesterday we happened to be in Fiddley's bank, when J. C. Coleman, of the Idaho came in, bearing an iron bucket of yellow metal. The little dab only weighed 345 ounces. It was the result of a week's run.

PLACER COUNTY.

Truckee *Tribune*, Jan. 16th: The Dutch Flat correspondent writes: The Baker Bros' new cement mill has been running for eight or ten days with indications of a good yield. They will have a clean up tomorrow.

The miners of this vicinity now have plenty of water once more, and are as busy as bees in their claims, many of which will continue to yield good dividends to their owners for many years yet to come.

PLUMAS COUNTY.

La Porte *Union*, Jan. 9th: Turner, Rice & Co., the owners of the Black Hawk claims near Quincy, have pocketed the sum of $15,000, for the last summer's work.

The quartz mill at Argentine, owned by Duesler, Knisely & Co., has suspended for the present, but will resume work again in a short time. An interest in this property was purchased by Mr. Duesler a short time since for $750.

The North Fork correspondent writes: In consequence of high water there has been less river mining done on the North Fork this year than any year previous; however, there are a number of bank and bar claims that are paying well.

At Carriboo, Nissen, Shoeffer & Jones are making $4 per day to the man in their bank claims, and have any amount of ground that prospects the same per day.

The rich claim of Joseph Hickman still continues to pay immensely. His has been and is the best claim ever struck in this vicinity. Thos. Orton, in the adjoining claim below, and Mr. Drake, in the adjoining claim above, are doing well.

At Bamboo Bar, Balliett & Co. are making about $10 a day to the man.

Boston & Bryan are engaged in cutting a race through the bar which will drain about 700 feet of the bed of the river.

At Dutch Hill, Riddle, Catlania & Baptist, in the old Dutch Hill claim, are making $4 per day to the man.

In consequence of the caving of some of the old works in the Zearing claim, the prospectors, Waggoner & Ferguson, are now running a new tunnel.

At Barker Hill, things are looking up. Last spring most of the miners left this place, thinking the mines "no good," or worked out. A few remained, and these few are now receiving pay for their perseverance. J. J. Mechlin is making as high as $20 per day to the man. Bly & Stanley have good prospects.

SISKIYOU COUNTY.

Yreka *Union*, Jan. 9th: A Scott's Valley correspondent writes: John Carroll & Co. are taking out lots of money from their claims on McAdam's Creek.

Until the storms of last week there had been no rise in the streams to interrupt river mining. Claims in the Scott River and the Klamath continued to be worked on up till the storm of last Saturday. Scott River raised so as to drive miners out of the river claims; and on the Klamath, miners became alarmed and took out their wheels, though the river has not risen sufficiently to interfere with their workings had they left them in. The fall and winter have been remarkably favorable for river mining. The rain which fell last Saturday, while it has put a stop pretty much to mining in the beds of the rivers this winter, has furnished water in the gulches so that the vigor with which gulch mining will be prosecuted for some time will more than make up for the loss sustained by the stoppage of the other.

TRINITY COUNTY.

Weaverville *Journal*, Jan. 15th: Orson Fox is putting up a hydraulic for the purpose of opening a new claim on Five Cent Gulch. Considerable fine gold is found in the surface, and a tunnel, run about ten years ago, established the existence of a channel in the hill having a regular deposit of good-looking washed gravel. Should he find good pay it will be the means of opening a number of claims in that vicinity hitherto untouched.

A correspondent writes from Lewiston that John Arn has purchased the old Crow ditch, and allows the ground upon which it is located to be mined out, furnishing water from his Rush Creek ditch. There is good pay extending from the front to the Crow ditch, and probably some distance back of it, that will afford employment to several companies for a long time.

ARIZONA.

Prescott *Miner*, Dec. 19th: From parties who visited the Sterling this week, we learn that matters were progressing favorably there. The mill was crushing the ore, and the chlorination works were in full blast. Six tons of sulphurets or pyrites, were roasted this week, and on Thursday last, they were being operated upon in the vats. It is thought $1,000 will be realized from the batch.

Capt. Shoupe sold, recently, to Jackson, Lovejoy & Co., a one-sixth interest in the Excelsior diggings, on Lynx Creek, for $2,000.

A party of placer miners left for Big Bug early in the week.

Geo. Monroe, who arrived here recently from Wickenburg, gives a glowing description of the Vulture mine at that place. He says it is now producing richer rock than he ever saw in California, and plenty of it.

Dec. 26th: The Sterling mill is idle, and will remain so until after the holidays.

Good rock continues to be taken out of the Plantauea mine.

The Chase ledge is widening, and rock getting richer.

Denver *Herald*, Dec. 25th: A correspondent of this paper, writing from Santa Fe, gives the following: Eighty miles southwest of Tucson is the Cababi mining district, said to be very rich in silver. But the great El Dorado of Arizona, at present, is at Apache Pass, or around Camp Bowie, 110 miles this side of Tucson. Col. Stone showed us some specimens of white quartz completely gemmed, studded and streaked with free gold, in the ratio of about an ounce of gold to five ozs. of rock. Those new mines are now being developed by about 100 persons, principally from Pinos Altos and Tucson. The lodes are chiefly decomposed quartz, even down to a depth of 40 ft. The principal paying lodes that have been opened to a depth of 40 or 50 ft. are the Montana and Harris.

COLORADO.

Central City *Herald*, Dec. 26th: We saw a silver brick at Stewart's smelting works, Georgetown, weighing 342 ozs., valued at $1.22 per oz—$417.24....A large stream of water has been struck in the Quartz Hill tunnel.

The ore in the Briggs mine is rapidly improving, and Mr. Beach thinks in a few days he will strike a large body of peacock ore.

Mining is taking a start on Bates Hill, Mountain City. The Gaston Mining Co. are working the original lead of that name. Taylor, Hammond & Stevens are sinking a shaft on the same lead. Ed. Moore has recently taken a lease from Turney, and is working at the junction of the Hope and Gaston.

We saw a splendid specimen of ore from the Franklin lode, this morning. It was of a bright blue color, and literally covered with native silver.

The Conqueror lode, on Leavenworth Mountain, Clear Creek County, is proving to be a first class piece of property. The walls are good and about four feet apart. The ore is composed of sulphurets and galena mixed, and is about six inches wide. Select specimens assayed, shows it to be very rich, and 1½ tons is now at the mill of Huependen, Wolters & Co. for treatment.

Central City *Register*, Dec. 31st: Wells, Fargo & Co's express took down yesterday morning $14,000 in gold, and 200 lbs. of silver bullion.

A. S. Wright came up from Boulder last night, with another installment of 288 ozs. of bullion from the Hoosier mine.

Robert Teats brought up a beautiful bar of silver bullion last night, weighing 487 ozs. This is about the average daily product of his mill, running on ores from his own mines on the Cooley and Gilpin County lodes, which are producing more ore than ever before. These lodes were discovered in June last, since which time they have produced upwards of 20,000 ozs. of silver. The largest assay that has been obtained from crushed ore in bulk, from this mine, is 735 ozs. per ton, and the highest from selected specimens is a little above 20,000 ounces.

Bar mining about Idaho is rather dull at present, owing to the cold weather, yet a few parties keep pegging away, and are generally making good wages. Maj. Cannon and brother are working the old Spanish claim, on Spanish Bar with good results. Schwartz and Mixer are doing a good business on Illinois Bar. Reeder & Co. are still working on Bull Bar, which is paying very well. Wright, Clenfield & Co's claim is being worked, and is paying well. John M. Dumont has got work started on both the Garden and City tunnels, in the former of which he has some fine looking ore.

Georgetown *Miner*, Dec. 31st: Huepeden, Wolters & Co. have taken out and shipped, since Dec. 23d, 2,239.65 ozs. of silver bullion, coin value, $1,913.19.

From the end of the tunnel in the Snow Drift mine, which is 100 ft. in length, a shaft six by twelve ft. is being sunk on the vein, which is 33 ft. in depth. The crevice, between walls, is about six feet in width, carrying on the hanging wall two feet of decomposed gangue. The remainder of the crevice is barren. The lode is evidently a true fissure vein, with solid granite walls, ensliekened, the ensliekened surface being striated horizontally. Ten feet above the present workings there is a body of solid gangue and mineral combined, about 30 in. in width.

CHINA.

The Cheffo mines continue to yield liberally. The *Recorder* says:

A party of men, chiefly Americans, who have been sometime engaged in working a shaft, have expressed their intention of continuing, and do not feel any fear of being attacked by any of the Mandarin soldiers. We have seen a specimen of the ore which has been found, and which we are told by a gentleman of authority, looks very rich in metal. A man who has been some five years in the silver mines of Mexico, declares that it contains 6 per cent. of silver. The men have struck a vein of metallic ore fourteen inches thick, which seems by analysis to consist chiefly of zinc and silver. The Chinese are buying the stuff at $2 per picul. If there is 6 per cent. of silver in it, it will pay splendidly.

IDAHO.

Silver City *Tidal Wave*, Jan. 8th: Black's mill has cleaned up, after a successful run on Rising Star ore, with very flattering results, and is now stopped for a few days,

in order to construct a kiln to dry the ores before crushing.

The Cloud Ledge at Cottonwood is developing into a wider and richer mine as the shaft is put down. Al. Cage came over the mountain yesterday and reports the mines about Cottonwood and Flint all looking more and more encouraging.

Jan. 12th: The Cosmos mill is making a run on Woodstock ore. Bob McVee has hold of the engine. There is talk of running the mill all winter.

The Rising Star Co. shipped by Wells, Fargo & Co., some 500 lbs. of bullion, and the Golden Chariot, $27,000.

MONTANA.

Helena *Post*, Jan. 1st: Mr. Nolan arrived last night from Cable with a bunch of gold weighing 720 ozs. the result of the last run of the Nolan mill.

S. F. Molitor, yesterday ran into proper shape for transportation, a mass of gold which was worth in gold coin, $12,500. It was the result of one run of the Nolan mill at Cable City.

From Silver Star district, we learn that the Bates & Trevit mill is pounding away upon the Iron Rod, and is doing splendidly. There was a large clean up made. The Everett mill on the Green Campbell lode is unceasingly at work, and we may expect to hear of good returns in a few days.

We have the following from Norwegian Gulch: The Sterling Mining Co. commenced drifting the 22d, and are succeeding very well. They propose to continue work all winter....A. A. Master & Co. are sluicing and making wages....A. B. Kiser made a discovery on a bar near Gold Run and are engaged in running a tunnel150 ft. They got from five to ten cents per pan, but are piling the dirt to sluice in the spring. On this bar there has already been over 30 claims recorded....In Sterling, Capt. Maltby is running his mill upon rock taken from the Rising Run, a lode situated in the district. This gulch will perhaps be one of the most busy mining localities in the Territory, and will furnish employment to several hundred men.

NEVADA.

REESE RIVER.

Austin *Reveille*, Jan. 7th: There are at the Manhattan mill in this city five tons of ore which were brought from the Eureka district for reduction. The lot embraces ore from several mines, and is estimated to yield largely of silver. From what we have been able to learn the ore occurs in deposits, as in the district of White Pine.

As much of the ore in the district of Eureka can be most economically reduced by smelting, parties are engaged in the erection of a furnace for that purpose. The works are far advanced, and will be completed within a few weeks. As soon as this happens, a variety of the ores in the district will be brought to the furnace and reduced successfully.

During the period of 90 days the 5-stamp mill of the Monte Cristo Co. at White Pine, reduced 125 tons of ore, the yield of which was $97,700. In the lot 53 tons averaged $1,455.50 per ton; 53 tons averaged $251 per ton; 18½ tons averaged $326 per ton; and five tons averaged $383 per ton.

The vertical shaft which is being sunk for the development of the Chase mine, situated in New York Cañon, has already attained considerable depth through hard, tough rock. As soon as the requisite depth is reached, levels will be run for the vein and ore extracted.

Jan. 11th: There were received at the First National Bank in this city on Saturday evening, nine bars of bullion from Leon & Co's El Dorado South in the district of Silver Bend.

Ten bars of fine bullion were brought into this city yesterday morning from White Pine. Seven of the bars were from the White Pine mill at Hamilton, and are valued at $12,370.26.

Jan. 12th: The following amounts of bullion were shipped by the banking houses at White Pine since their establishment: By the John A. Paxton in November and December, 1868, $96,711.28; by the agency of the First National Bank of Nevada, $33,-240.45; total shipment, $129,951.73.

Five bars of bullion, from what mill was not specified, were brought into this city this morning from White Pine.

Jan. 14th: The Belmont stage last night brought into this city seven bars of bullion—the product of ore from W. F. Leon & Co's El Dorado South—from the Belmont mill.

Virginia *Enterprise*, Jan. 15th: There is considerable excitement along the railroad about some new mines that has lately been struck in the Goose Creek Mountains. A letter to a gentleman in this city, from a friend in Truckee, states that many are going from that place to the new mines. There is also some talk about a place called McCann's Creek, and within the past three days several persons have left Gold Hill for that region. The mines are silver-bearing quartz veins and are situated about 150 miles north of White Pine.

WASHOE.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Jan. 7th: The Savage Co. day before yesterday, shipped through Wells, Fargo & Co. nine bars of bullion, valued at $17,261.47, and weighing 667 lbs....The Overman Co. shipped last night 340 lbs. of bullion, valued at $11,-768.65.

The new shaft of the Ophir Co. is now down 622 ft., 612 ft. of which is timbered. The rock is favorable for speedy sinking, and the work is progressing finely....The total yield of the Occidental mine for December, was $38,329.62. The mine is looking exceedingly well and everything is progressing satisfactorily, both above and below.

The first run of the new 16-stamp mill of the Silver Peak & New York Co. on ore from the Silver Champion mine, yielded between $300 and $400 per ton.

In the lower hills of the Palmetto range, near Fish Lake Valley, are some very promising veins of gold-bearing quartz. One of these, the Double Eagle, a vein about two ft. in width, is exceedingly rich in gold; one ton of the rock hauled to Austin and crushed there, yielded $1,615.

Jan. 9th: During the past week the express companies have shipped from this city 5,734 lbs. of assayed bullion, valued at $160,661.54.

About a dozen men are engaged in mining with rockers in the bed of Nigger Ravine, half a mile east of Silver City, with good success. One man is reported to have taken out $110 in five days.

The Gould & Curry Co. are putting in at the Bonner shaft a large and powerful engine for working the pump.

About 150 tons of excellent ore is being raised at the Alta mine daily, and both mills are kept steadily running up to their full capacity.

Jan. 10th: Seventy tons of ore per day is being raised from the Twin mine at Silver City.

The 1,100-ft. station of the Imperial-Empire has penetrated 20 ft. from the shaft, through cement, quartz, etc.; and at that point the true east wall of the ledge is doubtless encountered, as clay and water are found.

Jan. 14th: The Imperial Co, night before last, shipped, per Pacific Union Express, five bars of bullion, weighing 400 lbs., and valued at $8,658.25.

The Hale & Norcross Co. are said to have cut into a body of very fine ore, of late. The men are allowed to pass in and out of the mine at will.

Jan. 16th: The Justice-Independent works, just above the Devil's Gate, started up last Saturday, after a rest of several months.

Jan. 16th: At the assay office of Bonsfield & Co., we were yesterday shown a gold bar from the Sierra Nevada mine, weighing 492 40-100 ozs-, and worth $5,971.96.

The total shipment of bullion from this city for the week has been 4,885 lbs., valued at $122,096.48.

On the 840-ft. level at the Alpha mine, a promising character of quartz is met with, and the general indications of the mine are satisfactory. The Hale & Norcross Co. have a deposit of fine milling ore six ft. in width in their south drift on the 930-foot level.

The Occidental Co. are taking out from $40,000 to $60,000 per month from the portion of the mine they are working.

OREGON.

The Walla Walla *Statesman* says the news from Perry Creek, Kootenai, is very flattering, and anticipations for next season's operations in that vicinity, are that large quantities of the precious metal will be taken out of these mines. The district is supposed to be quite extensive.

DOUBLE-BARRELED GUNS.—It is in most cases, the *left-hand* barrel which bursts. The reason is simply that the right is most frequently used and reloaded—perhaps ten times to the left one being discharged once. Every time the right barrel is discharged the gunpowder in the left is pulverized more or less by the shock, and the settling of the grains leave a space between the charge and the wadding. Hence whence the left barrel is discharged it frequently explodes. These accidents, it is asserted, can be avoided by sending the ramrod home with one or two smart blows into the non-discharged barrel every time the other is reloaded.—*Artisan.*

Engineering.

NIGHT and day the railroad shops in Folsom are in full blast.

A TELEGRAPH line will connect Elko with Treasure City.

SURVEYORS are locating stakes for trestle work on the Oregon Central Railroad, between Oregon City and the Clackamas.

THE San Diego *Union* urges an appropriation of $100,000 for throwing San Diego River into False Bay, which was its ancient embouchure.

THE two thousand piles upon which the Vallejo grain elevator is destined to rest, have already been driven, capped and floored, and the earth filling is progressing rapidly.

IT is asserted on "reliable authority," that within a few weeks a thousand laborers will be put to work grading the Oregon and California Railroad, and that the section between Marysville and Chico will be in running order within six months.

ROLLING STOCK.—The Central Pacific Railroad Company has now in use 180 locomotives, 2,000 platform and box cars for carrying freight, and about seventy-five express and passenger cars,—which figures will have to be about trebled.

THE party of engineers in charge of the survey of the Vancouver and Puget Sound Railroad, arrived at Olympia, on Puget Sound, on Thursday, January 7th, and camped on the plaza. The report will be very favorable for the cheap and speedy construction of the railroad.

FROM BOISE CITY TO PUGET SOUND BY RAILROAD.—Col. J. C. Hudnutt, the engineer in charge of the preliminary survey of the northern branch of the Union Pacific Railroad, addressed the Idaho Legislature, in joint convention, on railroad topics, December 26th, and extended an invitation to his hearers to join in an excursion by rail, from Boise City to Puget Sound, on New Year's Day, 1871. (See Idaho correspondence).

CONSTRUCTION OF A BREAKWATER AT TRINIDAD HARBOR.—The Chamber of Commerce, urged by north coast shippers and lumbermen, has set on foot the construction of a breakwater extending from Trinidad head to a rock in the little bay behind it, which will shelter shipping from southwest storms, the only one to which the breakwater would be exposed; estimated cost, according to W. F. Weston, C. E., $653,-685. The lumber shipping interested in having such refuge, floats 300,000,000 feet annually, represented by $15,000,000 capital.

THE SOUTHERN PACIFIC R. R. Co. has changed both its management and its proposed route, which is now laid through the coast range beyond Gilroy, into Tulare Valley, along its eastern shore, and along the 35th parallel to Colorado River; ignoring the coast counties altogether. T. J. Arnold and a corps of assistants, are about to leave this city for a surveying trip through the coast range passes,—Panoche and Pacheco's. The Southern Pacific Railroad Company have a contract for the purchase of the San Francisco and San José Railroad, which will give the Consolidated Company the control of the continuous line from this city. The new directors are Tevis, Barron, Mills, Robinson, Cunningham and Bell.

Already the Eastern Division of the Union Pacific Railroad is completed and running to Fort Wallace, on the Western boundary of Kansas, 700 miles west of St. Louis. From that point to the Needles, on the Colorado River, is a distance of 900 miles, and the connection between San Francisco and the Needles would be 500 miles, making 1,400 miles in all necessary to complete the junction with the Eastern line.

French Government Engineers.

Fleming Jenkin, F. R. S., in the course of an inaugural address delivered in the University of Edinburgh, spoke of the engineers of France, as follows:

"These government officials correspond to our civil engineers; they are allowed, and even encouraged, to enter the service of private companies and large establishments, but remain all their lives members of their corps; and supported as they are by Government patronage, by tradition, by their *esprit de corps* and mutual assistance, and lastly, by their acknowledged distinction and honorable conduct, they enjoy so great an advantage over any independent man who may try to compete with them, that the engineer proper only exists as an exception in France. Once a member of the corps, a man is honorably provided for in life: he enjoys rank, certain promotion, a fair income, and, if he have original talent, a certainty of opportunities of largely increasing that income.

Being public servants, French engineers are educated by Government, and in great part at Government expense; the career, being so advantageous, is desired by the *elite* of the French youth, and hence in the competition which determines the admission of students to the Polytechnic School, as the school of engineers is termed, we see 900 picked pupils of eighteen and nineteen, each straining every nerve to win one of 150 appointments annually made. I believe that there exists no competition in Europe comparable with this. The great severity of the examination is so well known, the fact that five out of six must fail, is so obvious, that none but young men who have already gained distinction in the great public schools dream of competing. In this trial they are examined in plane and solid geometry, in analytical geometry of two and three dimensions, descriptive geometry up to curved surfaces, algebra, including the general theory of equations, series, functions simple and derived, etc., physics, chemistry, an odd language or two, and shaded mechanical drawing. But the select 150 are for two years longer employed in purely theoretical studies, that is to say, the higher mathematics, theoretical mechanics, mathematical physics, curious problems in descriptive geometry, with a little drawing and language as recreations. During these two years each is engaged in a daily struggle for about five and twenty highly-coveted posts. The three who are at the head of the class list at the end of the two years gain the proud title of Engineers of Mines, the rest are humbler members of the Ponts et Chaussées, while the 125 who fail have to content themselves with looking after the State factories for powder, tobacco, or saltpeter, or, worse still in their estimation, they sink into mere royal engineers or artillerymen."

CANAL TO OVERCOME WILLAMETTE FALLS. The Oregon legislature has subsidized, and some capitalists have undertaken, the construction of a canal around Willamette Falls, which is to have four locks, in a distance of 3,000 feet, to overcome forty-five feet, and the cost of which is estimated at $300,000. Oregon City, located there, is highly favored as to water-power, and is expected to become a great manufacturing place. Willamette Valley will be much benefited.

THE COARSE ARTS.—"The fine arts do not interest me," said Theodore Parker, "so much as the coarse arts, which feed, clothe, house, and comfort a people. I should rather be a great man as Franklin, than a Michael Angelo—nay, if I had a son, I should rather see him a mechanic, who organized use like the late George Stephenson, in England, than a great painter like Rembens, who only copied beauty. In short, I take more interest in a cattle show, and feel more sympathy with the Pope's bull, than his *bul-lum*. Men talk to me about the absence of art in America. You remember the stuff that M—— used to twaddle forth upon that theme, and what transcendental nonsense got delivered from gawky girls and long-haired young men. I tell them we have cattle shows and mechanics' fairs, and plows, and harrows, and sawmills, sewing machines and reaping machines, threshing machines and planing machines. There is not a sawmill in Rome. I doubt if there is one in the Pontifical States."

ABOUT the first of next month stages will run from Carlin, Central Pacific R. R., to White Pine -a distance of 97 miles.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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San Francisco:
Saturday Morning, Jan. 23, 1869.

Notices to Correspondents.

EOLUS.—The winds of California obey the same natural laws which rule in other localities, and possess no peculiar features other than what would obtain in any country similarly placed, as respects geographical and physical circumstances. Our prevailing westerly winds are chiefly attributable to the heating action of the sun's rays on the valley lands, foothills, and the western slope of the Sierra Nevada; thus rendering the atmosphere lighter than that which rests on the adjoining Pacific, from which the cooler and heavier air rushes in, to replace the heated and lighter air lying over the land. This action is further facilitated by the sloping form of the Sierra Nevada, up whose sides a constant upward current of lighter air flows, equivalent to the inflow of the cooler and heavier air of the Pacific.

L. P.—Heat in its radiant state does not raise the temperature of the media which it p o luces; a tube full of ether may be held in the focus of a burning mirror without becoming sensibly hotter, but the moment the absorption of the rays is caused in any way, as by introducing a piece of charcoal into the liquid, the ether enters into ebullition and becomes dissipated as vapor.

GUANO, Gilroy.—The fertilizing properties of guano almost solely reside in the phosphate of lime and urates which it contains. The former acts in the same manner as finely pulverized bones; the latter is valuable because they eventually become converted into ammonia.

SOAPSTONE, Shaw's Flat, Tuolumne Co.—The answer to your question is crowded out. We shall take occasion to add thereto next week.

THE NEW STANDISH STEAM PLOW.—Our notes in regard to the new 100-horse power Standish steam plow—a great improvement on the first one constructed, and really promising to be a triumph in view of its capacity to do economically the work intended—now nearly completed at the Union Foundry, and to be in running order in a few days, are reluctantly laid over till next week. The work done by Mr. Standish in Contra Costa County lately with the plow heretofore described in the PRESS, made such favorable impressions upon the minds of all who took the pains to examine into the operations of the plow, that the general verdict on rotary knives with locomotive power, without traction, has, we are glad to see, gone forth, pronouncing it a success.

EXPERIMENT IN BLASTING.—An attempt is to be made at Fort Point to-day (Saturday) to blow up with the Hafenegger powder a submerged rock forty feet long and fifteen feet wide.

New Steps in Metallurgy.

During the lull in mining enterprise which has characterized the past few years, a conviction has gained ground among millmen and others who are most thoroughly identified with mining pursuits, that our future road to advancement in that branch of industry lies in the direction of economical metallurgy. Many able men, on this coast, of scientific acquirements, and extensive experience in working of ores—men capable of originating something new where there are necessities in the case demanding it—have been devoting their best talents and unstinted energies to problems of the kind. While we should be slow to herald any new process in empyrical metallurgy as a success, beyond its merits, it devolves equally upon us that we should not preclude, in our minds, the possibility of any new or really valuable improvement, in practical manipulation or in principle, being hit upon by persons not masters in theory or in science. All new processes must bide the test of time; and everything is worth, trying, if we are to make any substantial advancement in the arts of metallurgy.

Besides the Rivot and Hagan hydrogen-burning furnaces, and the Nolf electric decomposition process, there is another new amalgamation process now in an advanced stage of development in this city, which is worthy of our attention, involving new combinations of principles, and the results of which, it is claimed and promised, will effect the reduction of the base metal ores at the extraordinary low figure of three dollars a ton. It is a dry process, with the application of dry chemical reagents and of electricity. As careful assays and comparisons with the ordinary methods of working are being made and certified to, we hope to be able to present the details soon in a properly tangible shape.

Title to Layer Deposits.

White Pine is much befogged, and clouded, possessorily and prospectively, under inky questions of law. The great Eberhardt trial is in progress at Austin, and acute lawyers, duly stimulated by the occasion, are practicing the art of baudying each other's witnesses as lawyers know exceedingly well how to do, where a few millions of dollars are involved. As in the great Comstock trials, at Virginia City, the result depends to a considerable extent on the opinions of geologists and experts. Of these there is no lack, persons ready to express their opinions; and the competent and honest, no less than the partially reliable and the dishonest, are treated in turn to the delicacy of "eating their own words"—as they had it at Virginia,—and more too, with legal sauce. The ores in question being those actually exploited, are generally conceded to be of the nature of layer deposits, from infiltration, and belonging to the bog-iron and manganese class, which are, or ought to be, held by their superficial extent, independently of the question of the origin of the metal so deposited. If neither the district miner's law, nor the general law, provides for a superficial location,—no law existing to fit to the facts of nature in the case,—the determining issue seems to recur to the question of how far a defective law is to be followed to the letter, in order to meet out justice, or, in its stead, the intention of general United States and foreign laws and precedents, governing as in the case of bog-iron and placer gold mines; which certainly are, and ought to be, applicable to claims of title by superficial extent.

FAMILY VELOCIPEDES.—We saw recently at the Pioneer velocipede establishment (Golden State Foundry), a three-wheeled velocipede, which might be designated as a family vehicle, it being of sufficient capacity to carry several individuals at once. With experienced operators it has run at the rate of a mile in 3½ minutes.

New Maps.

Photographic copies, in sections, of Mr. Montague's beautiful Central Pacific R. R. maps, showing numerous and accurate details of the interior not heretofore represented, may be seen at the office of Calvin Brown, C. E., No. 615 Sacramento street. These maps were made principally from the notes of Butler Ives, C.E., the exploring and locating engineer of the road, to whose excellent qualifications for that duty, great energy and peculiar talent as an explorer, are due the credit of marking out, the favorable and favored places where the iron line was shortly to be traced, for civilization to display its magic influences in the deserts. Data here jotted down, are the results of years of the most arduous labor, in the reconnoissance of available passes, and of the most favorable routes,—involving the climbing of the principal commanding mountains, and the execution of a complete system of triangulation connecting and locating every visible point between the California boundary and Salt Lake, and including the observation everywhere of hights, barometrically.

A new map of the State of Sinaloa is being completed by Col. Charles E. Norton, C. E., which will be very minute in its details. The agricultural districts and products; the mines of gold and silver; with roads, rivers, ports, etc., are noted with much exactness, as also the population of all the principal towns.

Amongst the new maps exposed for sale, C. D. Gibbs, C. E. has compiled from "authentic sources" a little map of the White Pine district, including portions of the counties of Nye, Esmeralda, Churchill and Humboldt, and the western border of Utah. It is about eighteen inches square, and not very nicely executed, but shows the geography and topography of the country sufficiently well to make it quite useful.

Another map of White Pine has been published by William McMurray, C. E., which is much larger,—about three feet square,—and better executed, but embraces a smaller section of country; containing, however, a great deal of valuable information about the geography, mines, etc., in the vicinity of Treasure Hill. On the margin is a section through Treasure Hill, showing the location of the principal mines. The geological points of the district are not taken notice of, or represented, in any manner, in either of the above maps.

Frey's Topographical, Railroad and County map of California and Nevada, is a well-gotten-up New York publication on about the usual scale, just issued; showing some improvements and corrections, and leaving room for a great many more, which are not, however, wholly to be laid to the charge of the author, in the present imperfect state of the surveys.

ACADEMY OF NATURAL SCIENCES.—A regular meeting of the California Academy of Natural Sciences was held on Monday evening, Jan. 18th, the President, Dr. Blake in the chair. W. Frank Stewart of San José, and Professor George Davidson of the United States Coast Survey, were elected resident members. President Blake presented specimens of the carboniferous formation in an imperfect state of formation, found on Treasure Hill, White Pine District. A specimen of fungus, incorporating acorns in its growth, found near Martinez, was presented by Mr. Mathewson. Remarks were made by members upon the lower forms of organized matter, and President Blake was requested to give his views at length upon the subject at the next meeting of the Academy. Dr. Cooper announced that the printed proceedings of the Academy for 1868 were ready for distribution. He also moved that the members of the Academy be divided into classes on Botany, Mineralogy, Conchology, etc., in order to a more thorough investigation of the respective branches. The proposition was discussed and finally withdrawn, after which the meeting adjourned.

Creating a Vacuum by Means of Falling Water.

Mr. Gordon, of Bush street, near Kearny, makes use of the Torricellian method of creating a vacuum, and recommends its application for the exhaustion of air in manufacturing processes; as in the kyanizing of wood, the making artificial stone by the Ransome process, etc. The principle is, that in an inverted tube which has been filled with any fluid, the escape of the fluid below, creates a vacuum above it. This fact having been first discovered by Torricelli, the vacuum has been called the Torricellian vacuum. It is on the same principle that the mercurial barometer works; a 30-inch column of mercury draws a short vacuum above it, which is counterbalanced at the other end by the pressure of the atmosphere—which varies about three inches. In other words, the weight of the atmosphere forms a counterpoise to just 28 inches of mercury; but when there are 30 inches of mercury, its weight will create a vacuum. Water being one fourteenth the weight of mercury, it will counterpoise the atmosphere at a height just fourteen times as great—or 32 feet, as we find in pumps, by the height that the water rises therein.

Mr. Gordon has a tank, and an exhausting vessel, fitted up in his working room, to demonstrate the practical availability of this principle for the exhaustion of air on a large scale. Below the tank is a pipe something over 32 feet in length, and near its upper end is a joint connecting with an exhausting vessel. When the water is let out below, this vessel is exhausted; then the valves are closed, the empty space above, in the pipe, is refilled from the tank, and the operation is repeated; exhausting still further the air in the exhausting vessel. This operation is repeated six or eight times, until there is a more perfect vacuum shown by an attached column of mercury than can be obtained with the air pump. Mr. Gordon's apparatus is very simple, and durable; the only requisite is plenty of water, with a sufficient fall. In the kyanizing and stone manufacturing processes in this city—where the air is exhausted in order that chemical solutions shall be forced in to supply the vacuum,—it is found more convenient at present, however, to accomplish the result with the air pump and steam power.

A GOOD WORD FOR US.—We clip the following appreciative notice from the *American Gas Light Journal*, of Dec. 2d. The initials at the bottom show that it is by Prof. Henry Wurtz, whose *Chemical Repertory and Chemical Excerpta* constitute of late, so important and valuable a feature of that journal. Such a notice, from such a pen, is most gratifying. We shall cordially welcome such contributions as he proposes to make to our columns:

THE MINING AND SCIENTIFIC PRESS, OF SAN FRANCISCO.—Of this important journal, thanks are due to the editors, for the recent receipt of complete files for some two years back. The assiduity and discrimination of this journal in the collection of scientific intelligence, are wholly without parallel in a community so young; and its columns convey a striking view of the surprising activity of inquiry, invention, and even of discovery, in our Pacific States, whose gigantic future needs no prophetic power to foresee. The "embarrassment of riches" is the predominant emotion produced by inspection of its overflowing columns. Effort will soon be made, however, to mete out, within our crowded space, such small justice as may be to Californian progress, and to this, its most worthy exponent.

Under this head, I can now but add that, perceiving recent communications in the PRESS from some of its able and intelligent local scientific contributors on the mode of formation of gold nuggets, to which I have myself given some study, I feel it not altogether out of place to say that I propose soon to contribute my own mite to this discussion through its columns. H. W.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

Work at the Foundries.

The Union Foundry, Booth & Co., is employed apparently at its fullest capacity; presenting to the eyes and ears of the visitor a complete picture, with all the acoustic accompaniments, of an industrial pandemonium. Amidst this bustle of hundreds of grimy mechanics, and all this havoc of dreadful noises, it is a pleasant characteristic of the Union Foundry that every operation seems to be going on without disturbance from any other; that everything fits, without making any odo—that the work, in short, goes forward methodically. Another feature characteristic of the place, which requires only the use of one's eyes to discover, is that the managing ones are well up with the times in everything new relating to their business, and even to the business of the patrons of a foundry.

The metallurgical rooms up stairs (formerly occupied by Prof. Blake) and the little amalgamating and mill room with the drafting room adjoining, are still, as of old, a kind of metallurgical college where the men from the mountains teach each other in all kinds of good, bad and indifferent processes; though the real advancements in chemical, as well as in mechanical points, made in gold and silver metallurgy in places like this on the Pacific Coast, are not by any means to be scouted; and are, in a number of cases that might be enumerated, meeting with the recognition of wiser people who look at such matters only from a scientific stand-point.

Dry crushing being found advantageous in the treatment of rich ores, where water would carry away too much of the precious metals, Mr. J. E. Clayton has been giving his attention to the construction of a battery, whereby shoveling and repeated sifting may be avoided—a self-feeding, constant sifting, and self-discharging arrangement being effected by means of properly curved screens, and suitably shaped stamp boxes, so placed that the finely-pulverized ore will pass off dry, in precisely the same manner that water and ore are splashed through the screens in wet crushing.

A dozen tons of tin ore from Temascal, are being worked up at this place for L. L. Robinson, Pioche & Co., by a method of crushing and concentration which is at present only experimental, though on a working scale; the mechanical contrivances being ingenious modifications of old and well-known machines, adapted to either wet or dry crushing.

Last week there was shipped from the Union Foundry a mammoth cylinder for the new Rivot hydrogen roasting furnace at Nevada; for Mr. Bausac, of the "Freuch Mill," at that place, representing Professor Rivot of the *Ecole des Mines*, Paris. This was one of the largest and most difficult castings ever made on the coast; the cylinder measuring fourteen feet six inches in length, six feet in diameter, and weighing 21,360 pounds. It was cast on end, on New Year's day, Mr. Scott having availed himself of the freedom from visitors presented by the day, for the execution of his very delicate task. His success was complete, the cylinder, as cast, proving quite perfect. Iron was melted for it at the rate of 1,000 pounds for every eight minutes, and allowed to flow, until there was enough, into a large tank, whence it was drawn through a gate. The arranging of the mold took three weeks' time.

This Rivot process appears to be new. It is a revolving roasting furnace, for pyrites. The cylinder containing the ore is heated from the outside, and the steam conducted into it at one end and through the center by means of a perforated copper pipe, in such a manner as to become mixed with the glowing ore, and decomposed and burned during the process. Messrs. Matthie & Gilliardon are among the interested parties at Nevada.

A fine locomotive is being made for the Napa Valley Railroad, 14x22, with five feet drivers. The only other place in the city where locomotives have been put together is the Vulcan Foundry.

Some superior Horu amalgamating pans have been made—one large one, five feet in diameter and three feet deep—for the French mill, in Nevada County, and one for Joseph Trench, Silver City, Nevada.

The Vallejo elevator is being made here. It is a large job, being the first elevator built on the coast. Grain arriving loose in ships can be scooped up and drawn out by means of an adjustable proboscis, called a "boot," elevated four or five stories, and stored for re-shipment. The engine is a 150-horse power—a patent Scott & Eckart cut-off. The Vallejo Elevator Company—Messrs. Friedlander, Frishie, Rico, etc., are the parties.

A large 16x36 engine, of about 90-horse power, for Elam & Howes' wood manufacturing establishment (recently burned down) is nearly finished.

Some improvements have been attempted at the Union Foundry lately in the way of boilers. A lot of car wheels and axles have also been made for the Black Diamond Coal Mining Co. of Mt. Diablo.

At the Phœnix Iron Works, large and improved fire-proof safes are still the principal product.

At the Atlas Works, iron fronts afford constant work, presenting a good deal of activity. A job in hand at present is for a large building at the corner of First and Market streets. A bank front for A. H. Houston, on Califoania street, has been ordered; also a store front for Moses Ellis, on Clay street; and a job for a commercial house to replace the Eureka Hotel on Pine street, for Mr. Land, of White Pine, is nearly finished.

Clerc & Co., of the City Foundry, report being busy.

The Hagan Furnace.

The new water-decomposing roasting furnace put up at Angels, Calaveras County, for the Angels Quartz Mining Company, has been for several weeks awaiting the completion of the amalgamating pans, and will be in operation in about ten days. A degree of efficacy in desulphurization equal to kiln roasting, is certainly to be counted upon; but the operators claim a great deal more, and refer to their working results, as owing to modifications in the arrangement and dimensions of the furnace, made since the unsuccessful trials in 1866; in regard to which, the following letter, pointing out the difficultics then encountered, will be found interesting. We are informed that the proper tests will not fail to be made, in such a manner as to be satisfactory to all inquirers, and sufficient to answer all objections that can be made:

"I see attempts are being made once more to bring this furnace into favorable notice. As it is about time its merits were established, I will state that in October, 1866, I pronounced it a failure, as the result of my examination of two operations on lots of about ten tons of ore, one of which consisted of arsenical sulphurets of iron, in a gangue of tough, compact, granular quartz, and the gangue of the other was more open in seams. The result in both cases was a complete failure to desulphurize the interior of the masses, whilst on the outside the iron was found in the state of *peroxide*, as also where seams or cracks penetrated the lumps; but a fresh fracture always showed the sulphurets, which had suffered the change due to heat alone.

I assisted in the analyzation of a part of this ore which yielded but poorly. It was *claimed* that the portion amalgamated after I left yielded about double as much, but the fine sulphurets from the tailings showed no gold till treated with an acid, and then it became visible in abundance.

It may be that hydrogen can desulphurize masses of ore as stated, but I am satisfied from observation that the reactions claimed do not take place to any extent; but be this as it may, the facts in the cases cited were as I state.

It would seem that the question as to whether this furnace does or does not remove the sulphur, etc., and free the gold, is one that need not take years to prove. The owners are rich; why do they not employ a *competent* person (such an one can certainly be found in San Francisco,) to examine and report? CHAS. H. AARON.

Lone Pine, Dec. 27th, 1868.

WHAT IS NEW IN THE NOLF PROCESS?—EDITORS PRESS:—Your article entitled "Amalgamation by the Aid of Electricity," ought to command attention on the part of those interested in the reduction of ores, and a few comments may not be unacceptable. When the ore is a *sulphuret*, the operation of the current is highly successful. The quantity and intensity best adapted for the purpose was pretty tolerably ascertained by Mr. John Scott, after lengthened experiments, *ten years ago*. The remark that Mr. Nolf is no *new* experimentor in this field of investigation, is, therefore, correct. Without wishing to detract from the unquestioned abilities of that gentlemen, it would appear that the combination of amalgamation with electrical decomposition is the new feature of his process, while the application of the electric current to decompose the ore and re-decompose the resulting product, was the invention of a previous experimenter in the same field.

San Francisco, January 20. J. G.

MOUNT DIABLO COAL.—A combination has been effected between the several coal mining companies at Mt. Diablo, whereby one agent in this city is henceforth to receive all the coal produced by all of them and shipped for sale or delivery in this city. A coincidence worthy of remark is that, whereas the price was formerly $6 a ton, delivered on the wharves at San Francisco, it is now $8.20. The arrangement is to last for five years.

VALUABLE contributions will be found on the inside pages, from J. E. Clayton, on the Salurian Rocks, and Mining in Southern Nevada; from C. H. A., giving interesting details with regard to smelting in the Owen's River country; from "Minero," in the mountains of Mexico; and from John Scott, on the decomposition of silver ores with the aid of electricity.

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 2tv17-4m

O. M TAYLOR, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office, without fail.

A SHORT ENGAGEMENT. The person who visited Yuba, Sierra, and Plumas counties, last fall, as agent and correspondent of the PRESS, only continued a short time in that capacity.

Mr. Mowry, lately a clerk in a hotel at Colfax, is requested to call at the office of the MINING AND SCIENTIFIC PRESS, No. 414 Clay street, below Sansome, San Francisco.

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

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An article of great merit and virtue.—*Cinn. Nonpareil.*

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It has real merit: as a means of removing pain, no medicine has acquired a reputation equal to Perry Davis' Pain Killer.—*Newport (Ky.) Daily News.*

It is really a valuable medicine—it is used by many physicians.—*Boston Traveller.* 26v17-1m

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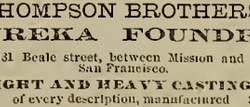

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Interesting Smelting Details from Cerro Gordo.

EDITORS PRESS:—My friend, M. P. Desormeaux, of Cerro Gordo, (Inyo County,) again reports progress as follows:

"I have now the pleasure of announcing to you the great success which I have obtained in a new furnace, which I invented myself. * * * By the result of my trials I was convinced that by means of *scorification* I should succeed completely in treating the galenas, which are furnished in large quantity by several of our mines, and which have been used heretofore only as fluxes for richer ores; but which my invention will render the most valuable in Cerro Gordo, as the quantity of ore from other mines is extremely limited at present for want of capital to develop them.

"After much thought I adopted the plan of a reverberatory furnace,—a double fusion, that is to say of which the basin or receptacle is in the middle of the furnace, receiving the melted ore from each side. My furnace is twenty-two feet long inside, by six feet wide with lining (chemise) of firebrick. After thorough drying, the furnace was charged with 1½ tons of galena from the Union mine, well spread on the hearth, after four hours' scorification, the heat was raised to produce agglomeration, which continued two hours, when complete fusion being obtained, I proceeded to draw the contents, having succeeded completely in my purpose, which was to disengage a large portion of the sulphur, antimony, arsenic, etc., contained in the galena, and which is thereby more easily and advantageously reduced in the upright furnace.

The campaign lasted fifteen days and nights, and the furnace was not in the least injured. I scorified forty-four tons of galena and nine tons of other ore, in all fifty-three tons, which yielded thirty-five bars of lead in spite of me, for I did not try to get it out. The remainder is scorified ore containing still some sulphur, but which can be readily reduced in the blast furnace without flux.

The following figures will convince you of my success:

18 cords wood at $5	$ 90 00
15 days work, 4 men, at $4	240 00
Supervision	150 00
Candles for night	10 00
Repairing tools	10 00
Total	$500 00

The thirty-five bars of lead weigh 1½ tons, and contain an average of $500 per ton in silver.

The ore will probably yield in the final treatment in the blast furnace, about 20 tons of lead; which will contain about $250 per ton,—$5,000; from which is to be subtracted as cost of the ore and expenses of the second operation."

For my part I must say I don't see much novelty in Mr. D's method, which seems to be only a slight modification of common practice.

Such is his report, however, and you may do as you please with it. If he can make the galenas of C. G. pay *alone*, it will be a good thing, for really I cannot see a great deal else in the district, except the San Ygnacio mine, which I believe to be valuable, though it is hardly an exception, either, as it contains a great deal of galena.

Owen's Lake continues to rise, being now at least ten feet higher than at this season last year. I have made a partial examination of its waters, and find them to contain about five per cent. by weight of solid matter, consisting of chloride, carbonate and sulphate of sodium. I failed to detect salts of potassium, which do not exist in any great quantity. When agitated by the wind, the lake emits a smell of sulphureted hydrogen. C. H. A.

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Inventors on the Pacific Coast, located at great distance from the Patent Office, of all others, should be careful to avoid inexperienced, dishonest, or otherwise unreliable and irresponsible agents.

DEWEY & CO.,

Patent Agents, Publishers and Printers, 414 Clay street below Sansome, San Francisco.

A. T. DEWEY. W. B. EWER.

The Union Pacific Puget Sound R. R.—Velocipedes in Idaho.

EDITORS PRESS:—The survey party of the U. P. R. R. are in town. As nearly as I can learn, on reaching King Hill, they were making a true course for just about Boise City, with good grade. They were afraid to go farther up the country from Snake River, fearing that if they got up as high as "Big Camas Prairie," they would be troubled with snow, where it falls about two feet to two feet six inches on the level, although of course it is deeper where it drifts. The surveying party, however, seem afraid of that route, but as we think, without good cause; and further than that, along that route there is timber sufficient for all their needs, and land worth something, whilst on the Snake River,—that is, bending around King Hill, down to Snake River,—the whole country is one vast desert covered with lava and sagebrush; and again, as King Hill forms nearly a bluff at Snake River, it becomes necessary to descend to the river bottom, and thus grade is lost, which it is almost impossible to regain so as to touch this town.

The difference between the two routes will be spoken of at greater detail hereafter.

VELOCIPEDES IN DEMAND.

There has been a great deal of talk about velocipedes here, and not only our citizens of Ada County, but the adjoining counties express the wish that they were introduced into Idaho. This county is almost level, so far as traveled roads are concerned, and we opine that a good many (for a popnlation as small as ours, say 1,500 voters) could be disposed of, if not too dear.

Will not some enterprising California merchant bring an invoice of some here, or send an invoice to some one here to sell for him? Being totally unacquainted with their make, weight, size, or cost, I cannot give any information, but would be willing to get and give information, or even introduce them here.

Some of our people have taken the "White Pine Fever," and require a dose of "Snow Shoes" and freezing on the top of the Sierra to cure it.

ALTURAS.

Boise City, Jan. 8th, 1869.

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Lea & Perrins' Sauce,
and see that their names are upon the wrapper, labels, stopper, and bottle.
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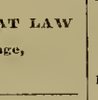
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☞Descriptive Pamphlets will be forwarded to any one
5v17tf

SULPHURETS;
What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.
By WM. BARSTOW, M. D.
Published by A. Roman & Co., San Francisco.
For sale at this Office.--Price, One Dollar.
With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

ELECTROTYPE ENGRAVINGS, CUTS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State

WE ARE NOW OFFERING
OUR IMMENSE STOCK
—OF—
Fine Custom Made Clothing
—AND—
Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES
BOTH OF MATERIAL AND FINISH.
A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.
J. R. MEAD & CO.,
8v10 Cor. of Washington and Sansome streets.

THE GIANT
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Is now prepared to fill all orders for
GIANT POWDER,
Put up in Boxes, either in Bulk or in Cartridges.
General Agents,
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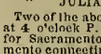
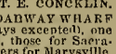
SAN FRANCISCO
Pioneer Screen Works,
JOHN W. QUICK, Manufacturer,
Removed to Vulcan Iron Works, Fremont street, between Mission and Howard, San Francisco.
Screen Punching in all its branches, at rates reduced from 25 to 40 per cent less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.
N. B—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

California Steam Navigation

COMPANY.

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Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville Colusa, Chico, and Red Bluff.
Office of the Company, northeast corner of Front and Jackson streets.
B. M. HARTSHORNE,
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International Hotel,
JACKSON STREET
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.
THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.
Prices varying from $1 50 to $2 per day for Board and Room.
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.
☞Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYGANT, Proprietor.

Pacific Powder Mills.
SUPERIOR BLASTING AND SPORTING GUN DER
Black Diamond, in 1lb canisters.
do do in ½lb canisters.
do do in ½ kegs.
Hunter's Pride, in 1lb canisters
do do in ½lb canisters.
do do in ½ kegs.
do do in ½ kegs.
Pacific Mills River Shooting, in 1lb canisters.
do do do in ½lb canisters
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do do do in ½ kegs.
do do do in 25lb kegs.
Pacific Mills Rifle, in 1lb canisters.
do do in ½lb canisters.
do do in ½ kegs.
do do in ½ kegs.
do do in 25lb kegs.
Blasting and Mining Powder $2 25 per keg.
Safety Fuse and Shot for sale by
HAYWARD & COLEMAN Agents.
24v15-3m 414 Front street, San Francisco.

Removal and Partnership.
Notice is hereby given, that I have removed from my old stand on Beale street, and have formed a co-partnership with Mr. A. CAMERON, for the purpose of carrying on the business of Stair-Building, Wood-Turning and Scroll Sawing. The business will be conducted as formerly at Cameron's, corner of Market and Beale streets, and also at Nos 185 and 187 Brannan street, where ample steam power and all necessary facilities have been provided for every branch of the business.
Different sizes of Red wood Balusters constantly on hand for sale. Also Spanish Cedar, Walnut and California Laurel.
15v17-3m N. P. LANGLAND.

Notes from Montana.

[FROM OUR REGULAR CORRESPONDENT.]

A HACKNEYED INTRODUCTION,

is one which treats of the weather; yet we should feel that we no longer deserved to enjoy the sunny and cloudless skies which now emile upon us, if we did not at the outset contradict the assertion which certain chilly and churlish croakers have given to the world in a somewhat profane statement that "Montana hae nine months winter and three months d—d cold wcather." It is now Christmas week, and placer mining operations are hut just suspended. There is not snow enough to cover the ground, no sensational items with a "Found Frozen" heading have come to the relief of local editors, and the overcoat trade is light. While far to the south of us, on the line of the U. P. R. R., the roads are blocked with drifts of snow, our roads are in fine condition, and all our territorial coaches make their runs on schedule time. The truth is, Montana has been fearfully slandered, on the weather question, and these slanders have, in many cases, heen the scapegoats upon which have been saddled those misfortunes which might much more consistently havo been attrihuted to the shiftless and unenergetic disposition of the complainants. The climate is, in fact, much more mild here than in Chicago or New York, and more favorahle to mining operations than in the districts south of us, where the greater elevation more than counteracts the advantages which would otherwise he derived from a lower latitude. During the winter of '64 and '65 placer mining was prosecuted almost without interruption in this territory, and a similarly favorahle state of affairs existed last winter. This season has not, thus far, been an exception to the rule, and even if it ehould be, Montana has now so far advanced in her career as a mining country that no injurious consequences would he felt.

HER QUARTZ MINES

are so far developed that they can furnish employment to thousands of men during the entire year, and can offer "situations" so far below the enrface that changes of temperature which take place above ground are not noticed. More especially during the winter months are our quartz mines worked to their full capacity; this being the case from the fact that ledge-owners can then employ men at snch low wages—from $45 to $50 per month, and hoard. Some prominent mine-owners are in fact pursuing the policy of crushing custom rock during the winter months in their mills, and puttiug as many men as they can possibly employ at work taking out ore from their own mines,—the ore thus taken out to be crushed during the summer, and the mines allowed to lay comparatively idle during that season of high wages. While this plan of taking out one's ore during the winter and crushing it in the summer greatly reduces the expense of working, it at the same time aids in the development of the country by allowing several months' time for testing rock from such new ledges as may not have been sufficiently opened to warrant the erection of mills upon them. With this latter class of ledges Montana is plentifully supplied; in fact the hooks of the several County Recorders preseut a curious entahlature of quaint appellations which have been manufactured to order for thousands of supposed discoveries, not one hundredth part of which will ever pay for the time expeuded in the invention of their names. Aud yet we regard these "wild-cat" properties as an endorsemeut of the quartz mines of Montana, for it is rarely that we find a counterfeit unless it is based upou a genuiue possessed of real merit. Of these genuine ledges, the

WHITLATCH UNION MINE

is one of the oldest, the hest developed, and the ooe which is more widely kuown than any other. Discovered in February, 1865, hy the well known Jim Whitlatch, an old and fortnnate Nevada miner, it has heen worked with such energy that it now contains over two miles of shafts, tunnels and adits, and has been traced and proven good for a distance, measured along the ledge, of 2,600 feet. The longest shaft upon this ledge has now attained a depth of over 400 feet, at which point the influx of water is so great that the work cannot he prosecuted further towards antipodes until steam pumps are erected in the spring. The first money was realized from this ledge in the summer of 1866, when the first thousand tons of ore yielded an average of $63 to the ton in gold. Since that time over 32,000 tons of quartz have been taken from the mine hy seven different companies, which have yielded over $1,000,000, or at the average rate of a little over $30 to the ton. The highest yield ever made hy this quartz was $87 in gold to the ton, on 90 tons of rock. At present the mines are being more energetically worked than ever before, and are employing ahout 700 men. The ledge which at first was not over a foot in width, and which, during the first 200 feet dipped at an angle of only about 31 degrees, now has a dip of ahout 45 degrees, with well defined walls, "slickensides," of an unmistakahle description, an average width of 3½ feet, and all the characteristics of a permanent vein. More than all, it possesses that attrihute without which all other qualities are useless—it pays. From 75 to 100 stamps are constautly running upon it, and find it profitable to do so. The ore now in sight in the mine, and which can he reached without going to any greater depth thau that now attained, and which can he more easily mined than that already taken out, surpasses in qnality the rock which has been crushed, and is sure to yield one million more.

The situation of this mine is four miles back from this city, in the spurs of the main range of the Rocky Mountaios, and it has already given birth to the hrisk town of Unionville, with its hoardiug-houses, stores, saloons, and the usual appurtenances of a quartz mining camp.

Many items of iuterest are deferred until our next. EVERYWHERE.

Helena, Dec. 22, 1868.

VELOCIPEDE PROGRESS.—Alexander Badlam and others have been practicing self-instruction at the Mechanics' Institute Pavilion, in the art of keeping upright and traveling on the velocipedes, having rented that place for use as a "velocipede school." Occasionally one of the machines is seen on the streets, hut it is seldom that they travel well enough to admit of the trip upon them being called a success; notwithstanding which, the numher of velocipedes is increasing, especially amongst the sedentary and amongst people of leisure, including some ladies; and practicing is carried on, mainly in private, somewhat in the same manner and with the same objects as skating—for amusement and for exercise. For some reason or other the new inventions in the way of velocipedes, are slow in making their appearance, hut we shall certainly have several new things in that line to describe next week. Inquiries are made on the subject from many points in the interior; in reply to which it may he stated that the velocipede will run only on tolerahly smooth roads, and on an up grade where a horse might be able to keep up an easy permanent trot, while for traveling down hill they are admirable under all circumstances.

"LETTERS PATENT" is the title of a small illustrated advertising sheet issued by Messrs. Fuller & Co., No. 109 Montgomery street, agents for the sale of patent rights, patented articles, etc. They have quite a nnmber of valuable rights for sale, and evince commendahle enterprise in their bnsiness.

PROF. RIVOT, of the French *Ecole des Mines*, Paris, will visit this country next fall, for the purpose of superintending personally the operations connected with his new water-decomposing roasting furnace at Nevada. This is a revolving cylinder (described in the column on foundries), the old reverheratory shaped furnacehaving the same chemical results in view, being discarded for the preseut.

About the Imperial Silver Quarries Company.

EDITORS PRESS:—Permit me to correct a statement which appeared in your valuahle paper of 9th inst., under the head of the Imperial Silver Quarries Company.

The Imperial Company, so far from being wound up, as there stated, is now, and has been ever since I took possession of their valuahle property in this county, nearly twelve months ago, prosecuting the work of development uninterruptedly, and as fast as men and means can do so. Already 660 feet of tunnel 6x7 have heen driven through hard rock, day and night, to cut a parallel helt of ten ledges, presenting on surface first-rate indications. On each of these ledges the company own 1,000 feet, as well as 1,000 feet on all hlind ledges to he discovered by the tunnel, and they are now within 130 to 150 feet of the first of these.

An attempt, however, was made about the time referred to, hy a party who had acquired a certain dehenture bond, issued to the vendors by the old directors in part payment of the purchase price,—to compel the present directors to pay him ioterest thereon,—the company heing yet without any return from their claims.

The present directors,—men of the highest standing and social position in London,—very properly refused to pay interest out of principal suhscribed by them and their friends for the express purpose of developing the property. They were not responsible for the acts of their predecessors, as the accompanying extract from the London *Mining Journal* of the proceedings of a shareholder's meeting, held on the 17th of August last, will sufficiently explain.

A perusal of the minutes will put you in possession of the facts, and enahle you to remove from the mind of your correspondent the erroneous impression which has beeu somehow created.

The £2,000 referred to, was, in addition to his former contributions, advanced by Lord Poulett, the Chairman of the preseut Board.

Vice Chancellor Malin's special idiosyncracy seems to he, that noblemen aud gentlemen should not be directors of public companies. Happily, the direction of the Imperial Company is, notwithstanding his Lordship's views, composed of just such men as are required to give stability and confidence to such an undertaking as the Imperial Silver Qnarries Company in England, where capitalists are somewhat prejudiced against American mining.

Your ohedient servant.

LEWIS CHALMERS,
Manager at the mines.

Monitor, Alpine Co., Jan. 15th, 1869.

[The proceedings referred to were given in full at the time, in the London *Mining Journal;* and though some ill-feeling had evidently been created, it appears that our correspondent's representations above, are suhstantially correct.—EDS. PRESS.]

THE "CALIFORNIA SOCIETY OF ARCHITECTS" has just heen organized at the Mechanics' Institute, by the election as President of Caleb Hyatt; Vice-President, David Farquharson; Corresponding Secretary, Wm. Putnam; Recording Secretary, W. H. Williams; Treasurer, S. H. Williams. At a meeting held on Jan. 10th, twenty-three members were present. It is proposed that essays and papers on architectnral and huilding subjects shall he read, and lectures delivered for the henefit of the society, from time to time. By creating amongst architects themselves an intelligent "public opinion," and cultivatug good tastethrough a free comparison and discussion of their hest conceptions before venturing to inflict unsightly realities upon the future of San Francisco,—such a society promises to he a thing of real henefit, at the same time that its vigorous existeuce will stand as an evidence of the intelligence of the professiou.

PHILOSOPHICAL AND CHEMICAL APPARATUS.—Prof. R. A. Fisher, of the State University, has heen authorized to expend $10,000 for the purchase of chemical and philosophical apparatus for that institutiou.

PRESENTATION OF MECHANICS' INSTITUTE MEDALS.—The gold and silver medals awarded hy the committees at the late Fair, were presented on Saturday evening last, and the managers themselves were the recipients, for their "powers of endurance" and "tenacity," of a sole leather medal which measured two feet in diameter. We append additional list of awards of medals, to those already published (to he found on page 184, Vol. XVII):

John Roach—Solar transit and compass, inventors' gold medal.

Gold Medals.—Elam & Howes—California made wooden ware. Califoruia Powder Works—best California made powder.

Silver Medals.—Dietrick & Eckart—Oscillating steam engine. Ætna Iron Works—Bemis's patent grate bars. I. H. Small—Improved planing machine. T. F. Mitchell—California made blocks. Capt. George Cummings—Model of clipper ship "Young America." Dr. A. Folleau — Orthopædic instruments. California Wine Cooperage Co.—Wine casks. Bryant & Strahan—A carved sidehoard. Pacific Powder Mills—Superior California made powder. P. J. Devine—Marhle bust. P. Mezzara—California cameos. O. A. Olmstead—Mineral paints. San Francisco Candle Co.—Adamantine candles. C. E. Watkins—Best collection of photographic viewe. Silas Selleck—Best plain photographs. H. W. Vaughan—Best collection of colored photographs. Mrs. T. J. Winship—Best display of millinery. Wm. Cantelow—Best foreign varieties of grapes.

HENRY CAREY BAIRD,

Industrial Publisher,

No. 406 Walnut Street, Philadelphia.

HAS RECENTLY PUBLISHED

A Practical Guide for the Perfumer; Being a New Treatise on Perfumery the most favorable to the Beauty without being injurious to the Health, comprising a description of the substances used in Perfumery, the Formulæ of more than one thousand Preparations, such as Cosmetics Perfumed Oils, Tooth Powders, Waters, Extracts, Tinctures, Infusions, Spirits, Vinaigres, Essential Oils, Pastels, Creams, Soaps, and many new Hygienic Products not hitherto described. Edited from Notes and Documents of Messrs. Debay, Lunel, etc., with additions by Professor H. Duseauce, Chemist. 12mo. $1 00

Cabinet Maker's Album of Furniture: Comprising a Collection of Designs for the Newest and Most Elegant Styles of Furniture. Illustrated by 48 large and beautifully engraved plates. In one volume, oblong. 5 00

The plates of this beautiful volume comprise designs for bedsteads in great variety; chests of drawers; wardrobes; dressing bureaus; tables for the chamber; work-tables; extension dining tables; card and chess tables; parlor tables, Louis XV. and other styles; office tables; chiffoniers; ladies' and other secretaries of different forms and styles; toilet tables and glasses; desks; book-cases; sideboards, etc., etc.

Gothic Album for Cabinet Makers: Comprising a Collection of Designs for Gothic Furniture. Illustrated by 23 large and beautifully engraved plates. Oblong. $3 00

The plates in this volume comprise designs for sofas, arm and other chairs, stools, tabourets, bedsteads, tables, chests of drawers, wardrobes, chimney-pieces, side-boards, pier tables, etageres, desks, book-cases, etc.

A Practical Guide for Puddling Iron and Steel.—By Ed. Urbin. Engr. of Arts and Manuf. A Prize Essay read before the Association of Engs. Graduates of the School of Mines, of Liege, Belgium, 1865-6. To which is added a Comparison of the Resisting Properties of Iron and Steel, by A. Brull. From the French, by A. A. Fesquet, Chemist and Engineer. 8vo., cloth. $1 00

☞The above, or any of my publications, sent free of postage, at the publication prices. My new and enlarged CATALOGUE OF PRACTICAL AND SCIENTIFIC BOOKS, 56 pages, 8vo, is just ready, and will be sent free of postage to any one who will favor me with his address. 20v16t

Pacific Mail Steamship Co's

STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at **11** o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK:

On the **6th, 14th, 22d** and **30th** of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French steamer for the Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR JANUARY, 1869.

The following Steamships will be dispatched on dates as given below:

January 6th—SACRAMENTO. .....Capt. W. H Parker, Connecting with ALASKA, Capt Gray

January 14th—MONTANA. .....Captain A. We Connecting with RISING STAR, Capt. King.

January 22d—CONSTITUTION. .....Capt. Wm. H. Hudson Connecting with HENRY CHAUNCEY, Capt. Connor.

January 30th—GOLDEN CITY.....Capt. W. F. Lapidge, Connecting with ARIZONA, Capt Maury.

Cabin passengers berthed through. Saggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship GREAT REPUBLIC, Capt. S. Doane, will be dispatched on MONDAY, January 4th, 1869, at 12 o'clock M., from wharf corner of First and Brannan streets, for HONGKONG, connecting at Yokohama with the steamer COSTA RICA for Shanghai.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

Enterprises and Developments.

THE fields in the vicinity of Sacramento are white with mushrooms.

A BOOT AND SHOE factory is to be started at San José.

THE five grist mills of Napa County gronnd 31,000 barrels of flour last year.

THERE are now near Boise City, (I. T.) two distilleries and three flonring mills in constant operation.

THE paper mills at Watsonville are manufacturing ninety reams of paper per day.

FORTY tons of California mustard seed were shipped for New York by the *Golden Age* on her last trip.

The woolen mill at Ashland, Trinity county, is now in successful operation, running 240 spindles.

THE manufacturing dam and canal of the Natoma Water and Mining Co., Folsom, will be fully completed during the coming spring

PETROLEUM IN KERN COUNTY.—The petrolenm works of the Buena Vista Petroleum Co. in Keru County, are now manufacturing excellent oil, both for burning and lubricating.

FRED. HOLZINGER, of Folsom, has proved this season that hops can he raised in the foothills successfully, and with profit. He has raised a large crop, the hops heing larger than those known to the valley.

PETROLEUM IN MEXICO.—A company has been formed to explore the ahnndant coal oil wells of Buerta de Los Angeles, in the State of Oajaca, Mexico. The consumptiou of coal oil has increased considerably throughout Mexico.

LIME ROCK.—Edward Allen, of Hope Valley, Alpine County, has discovered a body of marhle which will make as fine lime as that from Marble Valley. This is an important discovery for that section, when "the county comes out," says the *Chranicle*,

ARTESIAN WELLS on the Dominquez grant, between Los Angeles and Wilmington, flow thousands of gallons of good, soft water daily upon the wild mustard plains, and it is expected that the land heretofore barren comparatively, will he speedily covered with vineyards and orange groves, and he worth $100 an acre.

MINERAL SOAP.—The Secretary of the Califoruia Pioneers has on exhibition a quantity of "mineral soap," which is said to resemhle the gray sulphuret of silver. A piece of it, used with water to wash the hands, produces a lather like good toilet soap, and it is said to exist in great abundance in Sonoma County, where a well defined vein has been found. The locality is kept secret hy Mr. H. B. Osgood, its discoverer.

C. F. REED will hatch about 100 ounces of silkworm eggs this year, aud I. N. Hoag and W. M. Haynie each from 200 to 300 ounces. As there are at least 30,000 eggs to an ounce, this would give 18,000,000 cocoons. Some of the silkmen of Los Angeles say that county will produce 20,000,000. Santa Barhara and Santa Clara together must have nearly or quite 1,000,000; making 39,000,000 cocoons for the year; and for these the State would have to pay $117,000 premiums. If these cocoons are all hatched, they will produce 190,000 ounces of eggs, which, at $5 per ounce (they are now worth $12) will sell at $900,000.

MINING AND SCIENTIFIC PRESS,—We look upon thia papei as one of our most valuahla exchunges, in fact it deservedly stands at the head of all publications embracing mining, scientific and mechanical subjects, and coutains much miscellaneous matter of interest, and is a gem of neatness. The PRESS is published by Dewey & Co., San Francisco, and at its present low price of five dollars per annum, ahould be patronized by every one, but more especially by miners, mechanica and inventors who wish to pursue their avocationa with intelligence and economy.—*Tidal Wave, Idaho.*

Patent Brokerage.

PATENT RIGHTS

Bought and Sold on Commission.

A variety of new and valuable Patents for sale, novel and useful articles, suitable for TRAVELING AGENTS, always on hand, among which are the following:

Patent Cigarette Roller, and patent gummed Wrappers for the same. Every one can make their own Cigarettes. Price $2.50 (including 400 wrappers.)

Wilson's Patent Solder, for mending tin ware without soldering iron, prepared for family use. Retail price 50 cents.

Elliptic Steel Scrapers, for cleaning boiler tubes (all sizes)—best thing ever invented for the purpose. Retail prices from $8 to $10.

AGENTS WANTED.

Address "E. M. D." P st Office box 17, San Francisco.
25v17t12

THE CELEBRATED

IMITATION GOLD

$15. Hunting Watches. $20

CASES OF THE COLLINS METAL (IMPROVED OROIDE)

Special Notice.—Our superior Oroide Watches having recently been imitated, and worthless watches sold in New York, Boston, Chicago, and other cities, represented as our watches, we hereby caution the public against them, and give notice that we are in no way responsible for these bogus concerns, and only those purchasing directly from us can secure a genuine Watch of our manufacture. We have recently greatly improved our Oroide in appearance and durability, and, to protect the public from imposition hereafter, have named it the "COLLINS METAL," and we give notice that any one making use of this name will be prosecuted to the extent of the law.

This metal has all the brilliancy and durability of gold; cannot be distinguished from it by the best judges; retains its color till worn out, and is equal to gold excepting in intrinsic value. All our Gentlemen's Watches are *Full Jeweled Patent Levers*; those for Ladies an improved Escapement, better than a lever for a small Watch; all in Hunting Cases, and fully guaranteed by special certificate. The $15 Watches are equal in neatness, style of finish, general appearance, and for time, to a gold one costing $150. Those for $20 are of *extra* fine finish, and are fully equal to a Gold Watch costing $200. Chains of every style, from $2 to $6. A so, Jewelry of the Collins Metal in every style.

To Clubs, where six Watches are ordered at one time, we send ONE EXTRA free of charge. All our prices are in Currency.

Goods sent to any part o the United States by express, to be paid for on delivery. Money need not be sent with the order, as bills can be paid when goods are taken from the express office. Customers must pay all express charges. We employ no agents; orders must therefore be sent directly to us. Customers in the city will remember that our *only Office* is

Nos. 37 and 39 Nassau street, New York,

Opposite the Post Office, (up stairs.)

C. E. COLLINS & CO.

Citizens of Toronto and the Dominion generally, take notice. We have hundreds of testimonials. But you need no further evidence than the following from one who is well knowu among you. Here is his proof positive.

Harry Hazleton, the well known author, says:

"I have always looked upon cheap watches as humbugs, and dealers in them as little better than swindlers. At the request of a friend, I have worn for three months, the watch he purchased of C. E. Collins, and for which he paid $15. It accurate time, retains its perfect golden appearance, and I can really see no difference between it and my own, which cost five times the amount of the Collins Watch."

Mr. Hazelton adds:

"I have since purchased FIVE of these watches, at the request of friends, and those for whom they were intended are perfectly satisfied. Others are seeking for them, and I fancy that Mr. C. will find some difficulty in supplying the constantly increasing demand."

☞The regular price of the watch is $15, and others costing $20. These are superbly finished, and really superior to any article placed upon the market, costing five times that sum.

Office State Capital Reporter, 42 and 44 J street, Sacramento, Cal., July 15, 1868:

C. E. COLLINS & Co.—Gentlemen:—Wells, Fargo & Co. delivered Watch and Chain, as per order, paid bill on presentation. The Watch and Chain give entire satisfaction, and several of my friends wish the same quality of watch and chain. One is chief editor of this paper, and two others are the publishers of this paper, and the others are for friends of mine, and by wearing your goods will make you a large sale in this city. I therefore wish you to send me seven watches and seven chains, of same quality as those you sent me, price paid you $15 for watch, and $6 currency for chain. I return you the guarantee, it may assist you in ascertaining the exact kind of goods sent me, the number of the watch sent is 66,982. If this order sent turns out as satisfactory as the first, we will give you a good editorial notice, and help you along as far as practicable. I send this order not for my benefit, but for yours and to accommodate my friends. Send to E. K. Phipps, office of "State Capital Reporter, Sacramento, California."

Yours, respectfully,

E. K. PHIPPS.

Address,

C. E. COLLINS & CO.,

37 and 39 Nassau street, New York.

20v17eow3m

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low 10v17tf

New Mining Advertisements.

Rattlesnake Mining Company, Brown's Valley, Yuba County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the nineenth day of Decemher, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Agard W B	18	44	$440 00
Agard, M F	19	100	750 00
Aiselloni, H	5	6	45 00
Bradley, M	not issued	30	225 00
Bradley, A	not issued	5	37 50
Bush, L H	not issued	25	187 50
Brown, J	6	20	150 00
Beensecq, A C de	27	20	150 00
Cohn & Bro	not issued	10	75 00
Cavallier, J B E	3	10	75 00
Cavallier, J B E	25	91	682 50
Conreelle, A	7	46	345 00
Ey, J	not issued	10	75 00
Findley, Thos	25	49	367 50
Fischer, W	9	45	337 50
Gray C M	not issued	61	450 00
Hawley, W	not issued	39	292 50
Hawley, Mrs S	not issued	6	45 00
Huard, A N	1	210	1575 00
Huard, L H	2	20	15 00
Kelly, M J	13	20	150 00
Lawson, J F	not issued	49	367 50
Lamory, K	11	100	750 00
McAlls & Gordon	14	5	37 50
McAlls & Gordon	15	10	75 00
McAlls & Gordon	16	10	75 00
McAlls & Gordon	17	20	150 00
Maitat, M	4	20	150 00
Noel, A	12	20	150 00
Ruggles, D W	not issued	10	75 00
Smith, J B	not issued	10	75 00
Vitte, J	not issued	5	37 50
Wessels, S C	not issued	10	75 00

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of December, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the eighth day of February, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up stairs, San Francisco. j23

Mining Notices--Continued.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of January, 1869, an assessment of two dollars ($2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary

Any stock upon which said assessment shall remain unpaid on the fifteenth day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. jan16

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
P Calhon	186	10	$25 00
Wm H Cleveland	313	25	62 50
Mrs Ann G Cummings	255	25	62 50
Jas H Fosier	94	100	250 00
Jas H Foster	141	10	25 00
Jas H Foster	142	20	50 00
Jesse Geib	73	25	62 50
Jesse Geib	74	25	62 50
Jesse Geib	75	20	50 00
Jesse Geib	76	10	25 00
Jesse Geib	78	10	25 00
Jesse Geib	79	5	12 50
Jesse Geib	81	5	12 50
S R Harris	293	50	125 00
S R Harris	309	50	125 00
S R Harris	318	50	125 00
Jas Kellogg	175	50	125 00
A J Jeghers	3	5	12 50
A J Jeghers	4	5	12 50
A J Jeghers	5	5	12 50
A J Jeghers	6	5	12 50
A J Jeghers	7	5	12 50
August Ludorff	244	10	25 00
Dan'l McLeod	290	90	225 00
Jno R Mason	178	10	25 00
Camillo Marin	267	20	50 00
Ford H Rogers	329	65	162 50
Louis Vesaria	319	25	62 50
Louis Vesaria	320	25	62 50

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on the thirtieth day of December, A. D. 1868, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.

Office, No. 4'4 Montgomery street, San Francisco dec5

POSTPONEMENT.—The above sale is hereby posiponed until Thursday, the twenty-eighth day of January, 1869, at the same hour and place. By order of the Board of Trustees.

jan2 O. D. SQUIRES, Secretary.

North American Wood Preserving Company.

Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the fifteenth day of January, 1869, an assessment of one ($1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 430 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.

Office, 430 Montgomery street, San Francisco. ja16

Patrocina and Dolores Silver Mining Company, Guazapares District, State of Chihuahua, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the ninth day of December, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
James Lang	125	5	$10 00
L H Perry	11	10	20 00
L H Perry	15	5	10 00
L H Perry	202	55	110 00
R Hinsdale	213	5	10 00
R Hinsdale	52	5	10 00
S S Emery	186	5	10 00
John Donald	212	10	20 00
W H Ryan	94	15	30 00
F S Elimaker	180	35	70 00
P J O'Connor	146	60	120 00
James Doyle	192	5	10 00
Catherine Marlin	215	5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of December, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, Cal., on Monday, the twenty-fifth day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. B. GIFFORD, Secretary.

Office, N. E. corner of Second and Howard streets, San Francisco. jan9

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpina County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifteenth day of October, 1868, the several amounts set opposite the names of the respectiv shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Curtis Palmer	148	10	$10 00
William Brown	11	5	5 00
William Brown	232	10	10 00
William Brown	233	10	10 00
William Brown	234	10	10 00
William Brown	35	10	10 00
William Brown	240	3	3 00
William Brown	276	25	25 00
William Brown	277	45	45 00
Brown & Kent	15	10	10 00
Abigail Brown	20	5	5 00
Abigail Brown	207	5	5 00
M Nolan	266	10	10 00
Daniel Davidson, endorsed to James Wilson	46	10	10 00
George Patterson	53	5	5 00
James S S Robinson	56	10	10 00
F M Ellis	66	1	1 00
H D Scott	71	55	55 00
John Sanquet	128	15	15 00
B Curran	not issued	272	10 10
B Curran	not is ued	273	10 00
John Bugnell	77	7	7 00
Matthew Davidson	79	12	12 01
Patrick Carroll	224	10	10 00
P M Wellin	221	5	5 00
Edward Campbell	181	10	10 00
Chas H Montague	120	25	25 00
A J Davis	127	10	10 00
Lott Mulcahy	157	5	5 00
Thomas Fay	158	5	5 00
Oswid M Short	134	10	10 00
Chas Mayer	135	10	10 00
Benjamin C Levy	137	5	5 00
Lazard Godchaux	139	10	10 00
Lazard Godchaux	159	5	5 00
Lazrd Godchaux	162	5	5 00
Lazard Godchaux	229	5	5 00
Lazard Godchaux	230	5	3 00
P Cunningham	156	5	5 00
P Cunningham	174	5	5 00
Michael English	152	25	25 00
Frank Mahon	155	25	25 00
Thos McCullough	159	10	10 00
Stephen McGillian	164	5	5 00
Stephen McGillan	165	5	5 00
P J McMahon	170	25	25 00
P J McMahon	183	25	25 00
Jas Barrett...not issued...bal	189	25	125 00
Elizabeth Curran	194	10	10 00
Elizabeth Curran	195	10	10 00
N C Briggs	209	10	10 00
F H Moore	210	20	20 00
C B Gregory	211	20	20 00
Henry Eno	212	20	20 00
Henry Eno	278	25	25 00
David Lovell	214	10	10 00
Jacob Marienstein	225	1	1 00
M G Shove	264	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Saturday, the twenty-third day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CURTIS PALMER, Secretary.

Office, No. 61 Stevenson street, between First and Second streets, San Francisco. dec24

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of November, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alpheus Bull	2	218	$108 00
E B Booth	6	150	75 00
Geo Mohrel	10	10	5 00
Geo Mohrel	11	10	5 00
Geo Mohrel	12	10	5 00
Geo Mohrel	13	5	2 50
Geo Mohrel	14	5	2 50
Silas Garber	19	10	5 00
Jas P Wheeler	30	50	25 00
Jas P Wheeler	31	50	25 00
Jas P Wheeler	32	50	25 00
Jas P Wheeler	33	50	25 00
Jno Vall	34	20	10 00
L J Flint	37	20	10 00
I L Requa	38	50	25 00
I L Requa	39	50	25 00
I L Requa	40	50	25 00
I L Requa	41	50	25 00
A L Van Bokkelen	43	4	2 00
L A Booth	49	50	25 00
L A Booth	50	54	27 00
L A Booth	51	100	50 00
J Biggs		4	2 00
McFarland		16	8 00
Sarah Snyder		32	16 00
N M Baxter		20	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. C. Merrill & Co., auctioneers, No. 204 California street, San Francisco, California, on Saturday, the second day of January, 1869, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

ENOS TAYLOR, Secretary.

Office, No. 226 Clay street, San Francisco. dec19

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the thirtieth day of January, 1869, at the same hour and place. By order of the Board of Trustees.

jan9 ENOS TAYLOR, Secretary.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY,
1v1 San Francisco.

Patent Rights for Sale.

For Preserving Timber from Decay

The cheapest method for curing Wood.

A. HAMAR'S PATENT.

WOOD PAVEMENT,

MILLER'S PATENT.

S. L. PEREIRA,

3v18-1m 204 Montgomery street, Room 4.

ELLERY'S PATENT
India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,
Iron, Brick and Wooden Buildings,
SHIPS, STEAMBOATS, STAGES, CARS,
AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

GEO. T. BROMLEY, Agent,
Battery street, corner Jackson,
24v17-3m San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—BY—
WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

GLASGOW
Iron and Metal Importing Company
Nos. 25 and 27 Fremont street,
SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.
21v16-3m W. McGRINDLE, Manage.

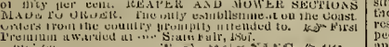
Removal.

NELSON & DOBLE,
AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,
Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of
Mill Picks, Sledges, Hammers, Picks,
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,
Have removed to **13 and 15 Fremont street,** near Market, San Francisco.
10v14qr

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi stoves, of the finest improved patterns, for vessels of all classes. Also, Ship Plumbing done.
M. PRAG,
8v13-1y Stove Store, No. 1 Clay street, below Davis.

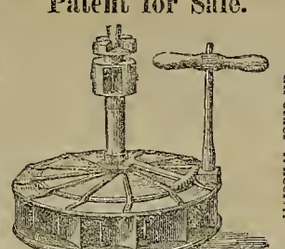
PACIFIC FILE WORKS,
No. 53 Scale Street, bet. Market and Mission,
SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at two State Fairs, 1867.
2v17-3m T. G. BUNNING & CO.

Postage.—The postage on the MINING AND SCIENTIFIC PRESS to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

Patent for Sale.

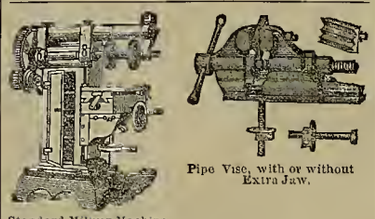


The undersigned, having successfully introduced the
Leffel American Double Turbine Water Wheel
On this Coast, and owning the Patent for the whole Pacific Coast, viz: The states of California, Nevada and Oregon, and the Territories of Arizona, Washington, Idaho, and Western Montana, wishes now to dispose of the Patent, with stock of Wheels on hand, Patterns, etc., etc.

A Company organized and prepared properly for the construction of these Wheels, to supply this Coast and all tributary countries, could make the business immensely profitable.

My object in selling is to enable me to devote myself exclusively to my profession. A. MYERS.

P. S.—If not sold previous to February 15th, then I would enter into an arrangement to manufacture by paying royalty. Address Rev. A. MYERS, Portland Oregon.
26v17-1m



Standard Milling Machine. Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.
23v16-1y G. H. NOTT, Pres.

CALIFORNIA TOOL WORKS,
Blacksmith and Machine Shop,
HAS REMOVED
To 143 Beale St., bet. Mission and Howard,
SAN FRANCISCO,

All kinds of Edge or other Tools made to order. Imported Tools, if too hard or soft, re-tempered to give satisfaction. REAPER AND MOWING KNIVES in complete sections always on hand, or will be made at the shortest notice. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted. Prices reasonable.
21v17-qy **J. WEICHHART, Proprietor.**

PATENT
Boiler Scraper and Tube-Cleaner.

IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches range from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. H., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

Portable Engines.

The Swamscot Co's (warranted equal to any manufactured, may be seen in use in this city), PORTABLE and STATIONARY STEAM FIRE ENGINES, STEAM PUMPS and ROTARY PUMPS, and WOOD-WORKING MACHINERY of every description, at Eastern prices. Address W. O. M. BERRY & CO., 511 California street, San Francisco.
25v17-3m

The Chili Exposition.

THE UNDERSIGNED WOULD CALL THE ATTENTION of the manufacturers of California to the National Exposition to be held during the coming spring in Valparaiso, Chili, next to California, is the most important country on the Western Coast of America. And this Exposition cannot fail to create a demand for our staple manufactures, if they are well represented. The writer has resided for some years in Chili, and is familiar with its people, business and language; is a practical mechanic, and proposing to visit the Exposition, offers to take charge of machinery or other material that parties may wish to send in their, and pledges himself faithfully to bring before the public of Chili their respective merits. He can be seen daily, at his office, No. 49 Montgomery Block. Prompt action is necessary.

DAVID R. SMITH,
Civil and Mechanical Engineer.

REFERENCES—Hanscom & Co. (Etna Iron Works); A. S. Hallidie (President Mechanics' Institute); Lynch & Andrade.
San Francisco, November 21st, 1866. 34v17-1f

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL.
BARTLING & KIMBALL,
BOOKBINDERS,
Paper Rulers and Blank Book Manufacturers.
505 Clay street, (southwest cor. Sansome),
15v12-3m SAN FRANCISCO.

JOHN DANIEL,
(SUCCESSOR TO O. GOKI)
MARBLE WORKS,
No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs Etc., On hand and Manufactured to order.

☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

Palmer's Patent
ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.
JARVIS JEWETT, AGENT.
218 Montgomery Street, San Francisco. 10v8-1m

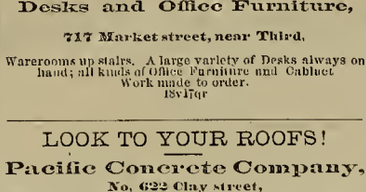
J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,
(Over W. T. Garratt's Brass Foundry,
S. E. Corner of Mission and Fremont sts.,
6v14tf SAN FRANCISCO.

J. F. PAGES,
SEAL ENGRAVER,
AND LETTER CUTTER,
Brass and Steel Stamps and Dies, **522** Montgomery street, San Francisco. Orders by express promptly attended to.
6v16

DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,
Manufacturers of all kinds of
Desks and Office Furniture,
717 Market street, near Third,
Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.
18v17qr

LOOK TO YOUR ROOFS!
Pacific Concrete Company,
No. 622 Clay street,
Factory on Kingsstreet, between Third and Fourth street.
New roofs covered and leaky roofs repaired, in thorough and substantial manner, promptly and at very reasonable rates. Proprietors of Eagan's Patent. 18v17tf

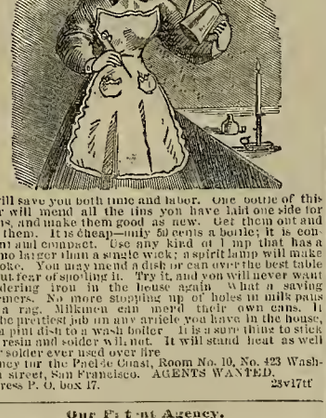
M. M. COOK & SON.



Hose and Belting.

Fire, Hydraulic Hose and Leather Belting, made of the heaviest and best quality of Oak-tanned Slaughter Leather. Also, Fire Buckets, Suction Hose, etc. Our Belting is well stretched, cemented and warranted to run true, and our Hose guaranteed to give satisfaction. A large assortment always on hand and orders promptly filled. No 811 Battery street, San Francisco. 13v16 3meow

Novelty and Usefulness Combined.
Wilson's Prepared Solder
Dispenses with the Soldering Iron.



It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire.

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Our Patent Agency.

The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

[Written for the Mining and Scientific Press.

Gold Mountain District, Nevada.

This district is situated about thirty-five miles south, twenty-six east, from Silver Peak, and within twelve to fifteen miles of the southwestern line of the State. It is 175 miles due south of Austin, and hence must be within the southwest corner of Nye County.

The mines of the district can be easily approached by good natural roads from Silver Peak, Belmont, or Palmetto, and thence through good valley roads to any point on the Pacific Railroad from Wadsworth to Gravelly Ford, on the Upper Humboldt.

The district is bounded on the west by a high ridge or mountain called "Mount McGruder," on the south by an east and west range of barren and broken mountains composed mainly of granite, porphyry and lava, on the east by irregular, detached and broken ranges of granite, slate, volcanic hills and desert plains, and on the north by granite hills and a large valley having a slope to the northeast, then east to the Armagossa flats or meadows. The district as at present organized is twenty miles square, the lines being conformable to the cardinal points of the compass.

The principal lode or vein is situated near the center of the district in the southern side of a low range of mountains that extend from the east base of Mt. McGruder, eastward across the district, where it unites with the desert mountains that extend southeasterly towards Death's Valley. On the southern slope of this cross range of hills (forming the central feature of the district) is a belt of slate from one-fourth to one-half of a mile wide. This slate belt or zone gradually narrows towards the west, and blends into or terminates in the granite formation, a few hundred yards west of the principal lode or vein, called by the discoverers the "State Line Lode." Hornblendic, micaceous and silicious slates, with occasional beds of calcareous sandstone and impure granular limestone, compose this belt of slaty rocks. Some of the surrounding granite hills show lines of bedding or stratification like gneiss; but the general character of the granite is fissile and friable, without any well marked evidences of stratification.

THE STATE LINE LODE.

This vein is situated in the west end of the belt of slate above described, near its junction with the granite. The strike or course is south 65° east (magnetic) and the "underlie" is 29° northeast of the vertical line (or as it is commonly expressed, its *dip* is to the northeast, at an angle of 61°.)

The walls of the vein are well marked and clearly defined by interveuing clay seams, that show distinct lines of movement, indicating the "pitch" of the rich quartz to be about 25° east of the perpendicular line. (As a general fact these lines of motion indicated by grooves and scratches upon the walls, are parallel with the line of richest deposits.) The thickness of the vein is variable from eight to twelve feet measured perpendicular to its walls, and the outcrop extends in length about 1,500 feet without any intermission or break, but is traceable as a smaller sized vein at least 1,000 feet further west of the principal body of the outcrop. Easterly the vein disappears under the debris and "wash" from the mountain above, and has not been explored, therefore its extent longitudinally in that direction is not known.

The lode is composed mainly of a friable, granular quartz, more or less stained with the oxides of iron and manganese, and in the richest portions with phosphate and oxide of lead slightly. Simple sulphide and oxide of iron largely predominates over all other minerals or metals apart from the free gold it contains. Several hundred feet of the southeast end of the large outcrop is so completely friable that the entire mass can be removed without blasting. The gold is disseminated in fine, roundish particles, pretty well through the mass of the vein, but there appears to be two bands or zones of quartz that are richer in gold than the general mass. One is near the foot wall, and found to be from one to two feet thick. The other commences near the center of the vein, and includes most of the upper half,

to the hanging wall. The remainder of the lode is low grade quartz, carrying from $5 to $15 per ton. Many assays and working tests have been made on a small scale that give very promising results. One thousand pounds of the quartz taken from the richest belts of the veins has been worked in a mill at Belmont. The yield was at the rate of $176 per ton. This lot of quartz was not closely assorted from the richest portions, but was intended to represent fairly about three feet of the lode at the point where it was taken out. So far as the explorations extend (800 feet in length) the facts seem to bear out the statement that at least one-half of the vein will give $20 and upwards per ton. Many tons of quartz now in sight on the croppings will give over $60 per ton in free gold, by the ordinary milling processes now in use in California.

THE CLIMATE

in the southern portions of the State of Nevada is very favorable for mining operations. The snow rarely falls on the valleys at all, and not exceeding one to two feet deep on the high ranges of mountains. In the summer time heavy thunder showers are common in July and August, confined mostly to the higher peaks and ridges of the mountains.

As a stock country, "Gold Mountain District" is rarely surpassed anywhere on the Pacific Coast. Cattle, horses, and sheep will keep fat the entire year on the nutricious bunch grasses, and the "white sage," of which they are very fond.

The State Line lode is a true gold mine, and not at all likely to change into a silver bearing lode like those at Gold Hill, and others of similar character.

The slate inclosing the vein belongs to the lower silurian—possibly the Taconic period preceding the Silurian. No trace of fossils—or any kind of organic life has yet been found in the gold-bearing slates of Southern Nevada. The best pronounced gold mines in this part of the State, is found in the granite and the slates immediately overlying it. Slates here of a more recent date are apt to carry gold and silver, together with more or less copper and lead, and the crystalline limestone above the slates rarely carry any gold, but rich deposits of silver, copper and lead are found. This appears to be the order in which the metals are associated with the rock formations of Silver Peak, Palmette and Gold Mountain districts.

The value per ounce of the gold from the State Line lode is $18.50. The gold from Red Mountain near Silver Peak is worth $14.50 per ounce. J. E. CLAYTON.

Gold Monntain, Nev., Sept. 25th, 1868.

CULTIVATING THE SAGE BRUSH COUNTRY. It is by no means improbable that in a short time large stretches of sage lands in Nevada, than which nothing more dreary can be imagined, so far as appearance goes, and which have so long served only to point jests against the Silver State, will also be utilized. The Humboldt *Register*, speaking on this subject, says: F. A. Shaw, of Grass Valley, in that State, sowed twenty-five acres of barley last spring, on white sage land, with the following results: Finished sowing May 15th; total yield of barley when harvested, 64,000 pounds. Also sowed four acres of wheat which yielded forty bushels to the acre. The ground was partially irrigated, but Mr. Shaw says he is certain a good crop can be raised without it. In confirmation of this belief he says he has seen barley mature in all kinds of places where it had fallen and come up, without irrigation. There are millions of sage brush or artemesia lands in the great basin which have been regarded as valueless, yet which may prove to be largely productive. Gov. Stanford proposes to make a trial of the lands of the great Humboldt desert, adjoining the line of the Central Pacific Railroad. He is of the opinion that the alkali with which the soil of that region is impregnated will enrich rather than improve such cereals.

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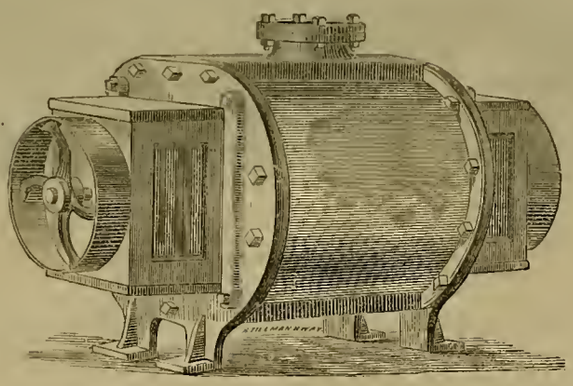
Awarded the First Premium at the Paris Exposition.



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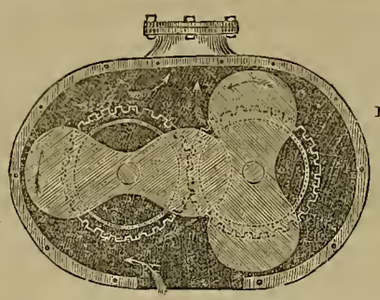

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CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

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4v16 3m Globe Iron Works, Stockton, Cal.

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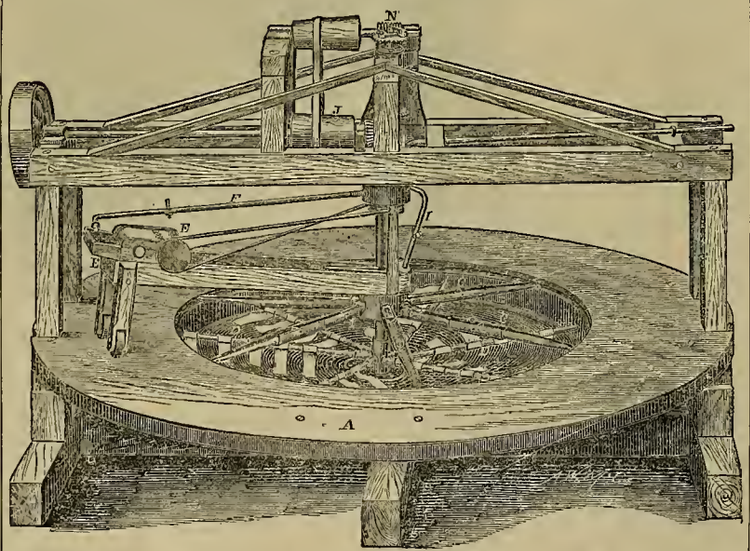
IMPROVED CONCENTRATOR,

For Saving Gold and Silver Sulphurets.



One Machine, costing about $1,300, is sufficient to work the Sands from 25 to 30 Stamps.

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This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.
WM. L. TISDALE, Supt. Star Spangled Banner Mine.

NEVADA CITY, Oct. 26, 1868.

Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE, at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.

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TO ALL WHO ARE AFFLICTED.

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[Written for the Mining and Scientific Press.]

N. Y. Society of Practical Engineering.

The New York Society of Practical Engineering beld a regnlar meeting at their room, No. 24 Cooper Institute, New York city, on Tuesday gvening, Dec. 22d, James A. Whitney, presiding.

The subject regularly before the meeting was "The Prevention of Marine Disasters," and a paper thereon was read by Mr. C. Williams, C. E., of New York city.

The writer treated at length of the different causes of disasters at sea and upon inland waters. For the prevention of burning, he recommended snch treatment of the timbers employed in ship-building as would render them incombustible, and among other methods of securing this result, mentioned that invented some years ago in England and known as the kyanizing process. This, consisting simply in impregnating the wood with snlpbate of iron, not only renders it measurably fire-proof, but makes it impenetrable to marine insects, and also iusures its greatly increased durability. The author also recommended the more extensive employment of steam pumps, especially upon sailing vessels, both as a means of preventing foundering from leaks, but also as enabling fires to be readily subdned. With reference to vessels wrecked either upon reefs or coasts, or in mid ocean, he sketched the general outlines of construction of a storm-proof raft, designed to facilitate and insure the escape of passengers and crew.

During an active and interesting discussion following the paper, Dr. Parmelee explained tbe practical difficulties that would be found to exist in rendering wood perfectly fire-proof, and stated that in his opinion the so-called fire-proof paints were of little worth, inasmuch as the shrinking and splitting of the wood when heated, would expose its interior, and this last would of course ignite.

Lawrence Holt agreed with Dr. Parmelee as to the non-availability of fire-proof paints, but thought that wood might be rendered fire-proof by impregnation witb mineral matter injected into the pores by means of an apparatus involving the use of a vacuum, in such manner that the mineral might be injected into the wood by the pressure of the atmosphere.

J. V. C. Hall, explained tbe construction of a bulkhead designed for steamers navigating the western waters wbere "snagging" is of common occnrrence. This bulkhead is so arranged that even if the low or forward portion of the boat is stove by running against a "snag," the hull would still remain buoyant, and no danger to life or cargo would be incurred.

The Society adjourned for two weeks, after the announcement that at tbe next meeting the subject of "Concrete, its uses and Application in Building," would be taken up for consideration.

Salt Lake on Carmen Island.—Gardiner F. Williams, M. E., has just returned from a trip to Carmen Island, where he has been examining a small salt lake, witb a view to determining the feasibility of draining the same, for the production of that article of permanent commercial demand. Tbe work proposed is in the interest of Holladay & Brenham.

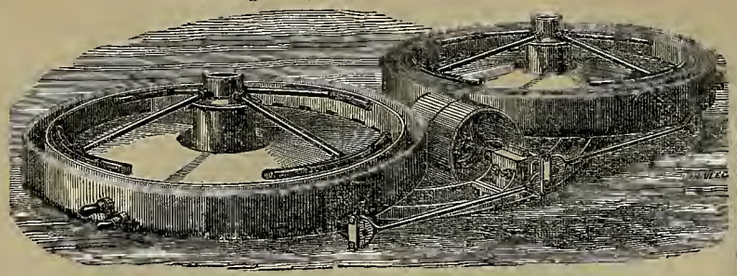
Car Building.—The car stock for a new horse railroad in this city, starting from the Masonic Temple, and leading through Post, Market, Mission streets, etc., out to the Harvey Brown tract, is being turned out as fast as possible at Casebolt's carriage factory; the cars being sixteen feet long—the largest in the city. The road is to be in operation in May.

The surface of the warm springs near Carson, Nev., has suddenly sunk two feet.

Mining and Scientific Press.—This excellent scientific journal has entered upon its eighteenth volume.—*Chico Courant, Jan. 15th.*

HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Snlphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as tbat for the separation of sulphurets. Many machines have heen tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with whicb his name is already so familiar.

RECOMMENDATIONS:

San Francisco, October 19th, 1868.

Mr. M. Hungerford—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work tboroughly and effectively. At a recent clean-up of four ot them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton ou the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

Office of the Oneida Mining Company, Jackson, May 13th 1868

Mr. Morgan Hungerforn—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lamhard last month, I will say that I put them up in the Oneida Mill soon after I arrived bere, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I bave used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

Big Oak Flat, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

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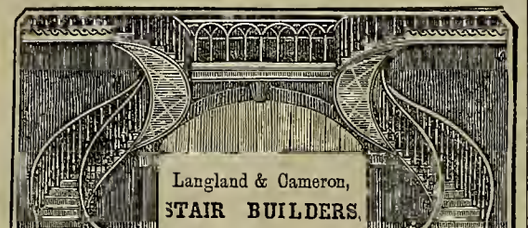

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VOLUME XVIII. Number 5.

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USING THE TIDES TO MAKE COMPRESSED AIR.—It is said that there is power enough in the rise and fall of the tides, to drive all the machinery that man would ever have occasion to use. Yet so far as we are aware, no advantage has been taken of this fact, except in the old-fashioned tide mills, where the wheel is stationary, either on shore or on an anchored boat, such as one may see in great flotillas, whitened with flour, or green with moss, on the Rhine. Mr. N. B. Adams, the representative of several very ingenious inventions at the late Mechanics' Institute Fair, suggests that compressed air power might be obtained by the use of a great iron, gasometer-shaped vessel, to confine the air between high and low tide, by fastening the vessel to the bottom; so that when the tide rises, for example, the air in the vessel above would be compressed precisely as is found in shoving an inverted tumbler containing air, some distance under water. The amount of compression would correspond with the hight of the column of water outside. A pipe leading from the top of the air reservoir would conduct the elastic element to any point where the power might be required for use. When the tide falls, the same force would be exerted in the reverse direction, to prevent the formation of a vacuum in the reservoir, the pressure in this case being limited by the weight of the atmosphere.

In this manner there is no doubt a kind of compressed air engine on the principle of the windmill, could be driven by suction, and counter suction, through the conducting pipe; but as the force would not increase in proportion to the area of the water inclosed by the reservoir or gasometer, the working effect would depend upon the volume of partially compressed air, in proportion to the size of the pipe. That is a problem in natural philosophy which we would recommend the reader to calculate out for his own satisfaction.

MINERS' MEETING AT COLFAX.—C. C. Brogan, J. B. Taylor and S. D. Moore, Miners' Committee, request that a meeting of the several mining precincts of Nevada and Placer counties be held at Colfax, Feb. 4th, to take action in the case now pending before the courts of this State, wherein Williams is plaintiff, holding title from the Central Pacific Railroad, and Parber and other defendants.

City Horse Railroads and the Coupon Ticket Nipper.

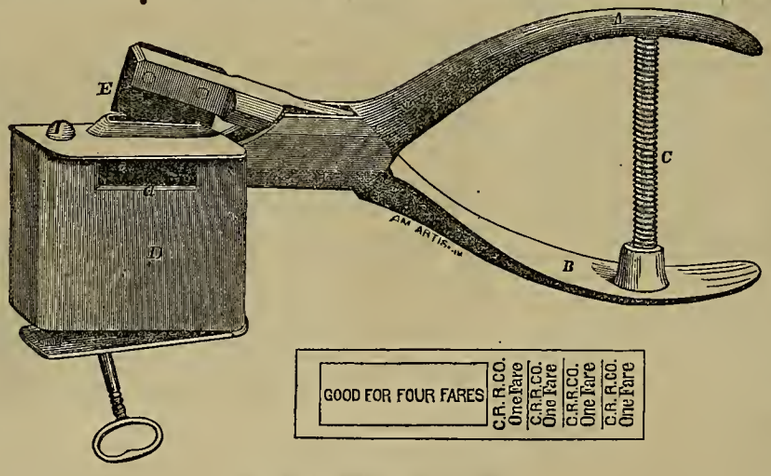
The adoption of the convenient snuffer-like "coupon ticket nipper," shown in the engraving, now as familiar to San Franciscans as the sight of a street railroad car itself, being a California invention, the product of the ingenuity of Mr. Robert J. Kellett, of this city, has worked so advantageously, even upon city railroad stocks, and has been the means of bringing about such noteworthy conveniences to railroad passengers in the system of exchanging tickets which has obtained through its agency between different lines, that a particular mention is deserved of some of the points in railroad economy touching its use, while at the same time we embrace the opportunity of referring to street railroad operations in general.

We are informed by the inventor of the coupon ticket nipper that the street railroad stocks in San Francisco have increased in value a third since its adoption, the city railroads being, without a single exception, now in a very healthy condition. That even a fraction of this advance can be due to the adoption of a ticket system whereby peculation on the part of conductors and agents is rendered impossible, comments strangely upon human nature and upon street railroad management. The receipts of the companies certainly show an increase, and it is said that conductors—poorly paid no doubt—have been heard to complain that under this system they are not able to make anything more than their salary of $2.50 a day. The conductor is now responsible to the company for the number of tickets he takes; and while he gives a kind of receipt to the passenger for every fare he collects in returning the body of the ticket, he retains in the coupon-nipper a check evidencing the amounts, the same being of no further use to him, as he is not able to sell the coupons, like tickets, over again, and mainly of use in showing, by the color of coupon, the number of fares that have been had on tickets sold by other companies. These conpons are strung on strings in the railroad offices, counted, and settled for monthly; the money going, in the end, not to the company that sells the most tickets, but to the one that nips the largest number of coupons; an even exchange being made between all the companies.

Scores of inventions for the prevention of peculation under similar circumstances, have been tried and found more or less ineffective. The present system is coming into general use, not only on Eastern horse railroads, but wherever exchanges between steamboats and railroads are found to be a convenience to the public.

Perhaps the chief value of street railroads is the enhancement effected by them of the value of suburban property. The several Mission railroads, and the Turk street railroad to Lone Mountain, afford the most striking evidences of the importance of this fact. At the same time it is evident that increased speed and facility in transportation would operate still more favorably than the present very defective means have done. Statistics of the several street railroads in San Francisco, given in a very full article in the *Bulletin* of Jan. 26th, show the value of street railroads from the dividends that are returned; as an example of which it may be stated that the Omnibus R. R. Co. carries 275,000 passengers per month, and receives for fares $223,659 per year.

Many problems are suggested to the inventor, by the operations and the demands of street railroads. To prevent crowding; rattling; using up and brutally treating horses, whose torturously clattering slipping hoofs on the cobbles, and whose woful-looking eyes and anatomy, are painful to the unwilling observer; while the harsh metallic clatter of the rails, and the filthy or damp interior of the cars, afford cause for a just aversion to the city railroads as an institution. Slowness of travel, from frequent and irregular stopping, involving a dead loss of power far greater than that which would make the car travel over its entire route, is a difficulty with street cars which has called forth seventy-five different inventions,—motive powers, car starters, etc.,—some of which, properly modified, will probably, in time, supersede present systems. For long, unbroken distances, the dummy engine cars at New York, carrying three-horse loads, have proved a success; and the elevated railway on Greenwich street, in that city, will shortly be heard from under the test of practical operation, the two doubtful points in regard to it being the frightening of horses at street crossings, and the unpleasant noises made overhead by the iron running gear. Tanks for compressed air or steam are proposed for motive power, in lieu of horses, but do not appear to have been satisfactorily tried. Another important problem is the establishment of successful city railroads on steep grades. Where the rewards of ingenuity are great, and the solving of a mechanical problem is at the same time a marked public benefit, the issue can be only one of application, and of time.



KELLETT'S COUPON TICKET NIPPER.

HOWLAND'S CIRCULAR STAMP MILL.—A new circular eight-stamp mill, of the kind which has been at work since 1861 at Gold Hill,—but embracing many improvements,—has just been completed at the Miners' Foundry, for Mr. A. Staples' mill at White Pine, and will be set in operation for the first time to-day. Though criticised somewhat at the time of its original production, the circular stamp mill seems to have been giving satisfaction, and to be making its own way into use. Its merits are its compactness; completeness without extra fixtures; durability, and in requiring, as is claimed, only 5-horse power where an ordinary 8-stamp mill would require 12-horse power. While it does not do more work than any other 8-stamp mill, it is claimed that the work done is better, the principal reason for which is the greatly enlarged screen surface forming the outer circumference of the mill. It weighs five tons, while an ordinary mill weighs eight tons; costs $1,600, and does not require any wood work, or millwrighting, to put it into operation. Once on the ground, a few men can put it in running order in a day or two. This saving, including the three tons less freight, will, it is claimed, reduce its actual price to half the cost of an ordinary mill. The quartz feeds in at the center; and the stamps are raised, and dropped two at a time, by a single shaft, connected by bevel gear with a large pulley. The diameter of the octagonal part is four feet three inches; of the round part, forty inches; hight, eight feet. The weight of the stamps is variable; in the present machine they are 600 pounds.

MR. HARFORD, the Curator of Conchology, is engaged in arranging systematically the shells belonging to the Academy of Sciences. There are prospects of the same being done in the Geological and Mineralogical departments in due time, which will add greatly to the value of the Academy of Sciences as an institution.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Account of Famous Mines in Mexico.

Batopilas, Chihuahua, Mex., Oct. 24th, 1868.

[Continued from page 50.]

THE ST. DOMINGO MINE

is known to give among its very rich ores a fair percentage of ruby silver, sometimes in large masses, and the most beautiful crystals.

THE DESCUBRIDORA

claim lies to the south of the town, almost at the top of a very high mountain, and contains some sixteen or eigbteen lodes. Some five years ago it was sold by its tbeu owner, Don Francisco Vinićgra, to an American company from San Francisco, which worked it for a little while, but failed to prosecute it, and finally lost it again by letting the lawful term of holdiug it as property run out. It then reverted back to its original proprieter, who now draws very rich returns from it. The claim has in former times given several great honanzas, and can be very conveniently worked by a tunnel. In none of the lodes are the works said to go deeper than sixty yards.

THE MARTINEZ CLAIM,

on the *Animas Hill*, comprises some of the very best mines, prominently among which are the *Martinez, Vallinas, Vaooa*, and *San Pedro*. The first one has given many millions to its former owner, the Marquez of Bustamante, and is said to he left in metal in some of its workings. The *San Pedro* in little more than fifty yards deep, gave several hundreds of thonsands to Don Juan Mendazona, and shows most flattering prospects. The claim is now heing worked hy an American Company, who are actually engaged in driving a tunnel to go under the old workings of the Martinez, and another one under those of the Vallinas mine.

THE CATA MINE

helongs to Mr. G. Le Brun, who, bowever, confined his workings exclusively to the Pastrana. It is one of the most important and promising mines of the district, which has given millions of dollars, part of it in silver so massive tbat it had to be chiseled out.

I might continue giving the outlines of many not less productive mines, dozens of which have given hundreds of thousands of dollars in comparatively very insignificant workings, the most of them averaging only thirty yards in depth; hut the foregoing ones have, I think, sufficiently proved the uncomparable value of the distriet, if we do not lose sight of the fact, that all these mines and lodes are, so to say, as yet almost virgin, not a single one having heen explored over 150 yards down from the surface, and when we hear in mind that the tunnels of the Pastrana and of San Miguel give evidence that the mineral deposits go down to the unknown depths, allowing for barren intervals.

I will only mention yet another enterprise, which in these very days, has heen started by a gentleman of whom I have already had occasion to speak, Mr. H. Stearns; an enterprise which bids fair in its glorious prospects and final resnlts to leave behind any otbers of which I bave heard, or which to my knowledge exists on our continent. The plan of it was conceived by Mr. Stearns years ago, and he has ever since untiringly worked to accomplish it. This great undertaking consists in nothing less than to drive a

TUNNEL THROUGH THE ANIMAS HILL

for a distance of about 1¼ English miles. This bill may, without exaggeration, be termed a colossal bed of silver.

The number of lodes which have formerly, or are at present worked in it, may go over 100, many of which having given great bonanzas, or are now turning out the richest kind of silver, many hundreds of feet above where this tunnel is to cut them. Besides these, several hundred veins lay between them, which have never been touched yet, or to a very limited extent only at their surfaces, hut may turn out equally rich. Hardly anywhere more than fifteen yards will intervene between any two of them, in many points not over ten. The mineral country throughout this hill is of the very first order, and increasing in richness below, promising incalculahle wealth.

Among the famed lodes which in its course this tunnel is destined to cut, are the Nevada, San Antonio Ohiquito, St. Theresa, Anrora, Vallinas, Martinez, San Pedro, Pastrana, and Arbitrios. This latter one having once formed one of the most prominent ones in the district, lies as the very last and highest, where the Animas Hill joins another hill. After having lain abandoned for many years, a San Francisco Company started in to work it anew a few years ago, but striking a horse in a new work above, of some sixty yards in depth, broke off here to drive in the old works helow to get under them. The country did not prove good as expected, hut was improving, and a considerahle gallery with upper works driven to within a few yards from a main cross lode, where the former great houanza was known to have lain, when the company stopped work.

The lawful term baving expired, Mr. Stearns claimed the mine as the end-point of his tunnel, with the object of draining it thereby. The time necessary to drive it through, Mr. Stearns calculates at about eight to ten years. He has already set energetically to work, after procuring full and undisputed documcuts of possession for his valuable property, and opened his work directly opposite the mouth of the tunnel of the San Miguel, on the other side of the river. About seventeeu yards have been driven, and a small vein has heen cut, which shows good prospects; the first one in importance, however, will he the Nevada, in about twenty yards distance; thence vein after vein will follow.

The people here are perfectly wild about this enterprise, and all those acquainted with the geological and mineralogical features of the district, predict for it a success of the most astonishing dimensions. Everyhody is congratulating Mr. Stearns on his hr.lliant prospects and acquisition. For, even allowing the most improhable case, that ont of these several hundreds of lodes only one or two dozen should he out in silver, which, as the experience of this hill shows, consists principally in pure metallic silver, or the very richest sulphurets, the result must go up to many millions.

I am very sorry that I have not personally met Mr. Stearns, as he had left B. a few days hefore my arrival here, going on to New York, I uuderstand, hut leaving an agent here to prosecute the work vigoronsly during his absence.

My time of stay here in Batopilas is nearly up now. I shall likely leave next week for the neighhoring mineral district of Urique, whence I shall write to you again, and describe what I see.

Yours respectfully, Minero.

The Giant Powder Comparative Figures.

San Francisco, Jan. 25th, 1869.

Editors Press :—Noticing in your paper of 16th inst., a communieation having reference to the nse of Giant powder in the Oakes & Reese mine, belonging to Mr. McAllister and myself, I heg to state that duriug the past week our superintendent, Mr. Cassel, has let the following contracts, for work in the mine :

1—Sinking main shaft 50 feet from the 278-foot level, at $60 per foot—contracting parties furnishing everything.

2—Drift west, on Oakes & Reese vein, 50 feet, at $13 per foot—contractors furnishing everything.

3 - Drift South, on Blue Lead, 50 feet, at $10.75 per foot—contractors furnishing everything.

The samc work has heretofore cost us, with nse of black powder, as follows :

1—Sinking main shaft, $90 per foot.

2—Drift west, Oakes & Reese veiu, $35 per foot.

3—Drift south, Blue Lead, $25 per foot.

Thus it will be seen that in these three contracts, the mine owners save as follows:

1. Sinking 50-foot shaft, at $30	$1,500.00
2. West drift, 50 feet, at $17	850.00
3. South drift, 50 feet, at $14.25	712.50
Total saving	$3,062.50

In addition to the saviug, in dollars and cents, is also the important item of saving in time, as the time occupied in finishing the contracts with Giant powder is only about one-half of the time required with use of ordinary powder.

The contractors, even at these low rates, are better satisfied with the prices, than under the old prices with the common powder.

Very rcspectfully,

L. L. Robinson.

Hydraulic Mining in Placer County. Velocipedes.

Dutch Flat, Jan. 20th, 1869.

Editors Press :—Since my last letter to you, the Baker Boys' mill has made a run on tbeir claims in the Blue Lead, and had a clean up, which demonstrates beyond further doubt the richness of the under or Blue Lead at this place. All we want now is energy and capital to make these diggings yield at '49 rates.

The hydraulic claims, too numerous to name individually, are nearly all running with good profits to the owners. The Buckeye Company have gone hack and started on the bedrock, some hundred and seventy feet lower than any other company upon the north side of the hill, and have found some immensely rich streaks of dirt. Wheu they have completed their fitting up, and made their first run, I will inform you of the exact amounts; and I am sure you will say that with the same investment in the mines in this State, as good results may be had as in any mining section known. This is not an isolated case, or mine of rich deposit in this section, but I speak of it more particularly, because they have gone to the lowest depth or bedrock to work with hydraulic rigging, as many others will do when they see the results of these operations. Mr. Chesbire, a man wbo has worked at mining all his life nearly, is engineering the work. He knows how to work mines for what they are worth, and has recently hought out several of the partners.

QUARTZ.

The Champion, Rhode Island, and Watereе quartz lodes are showing fine rock, considerahle free gold and heavily sulphureted. These lodes are ahout ten miles above this place.

VELOCIPEDES.

Now if you will permit, I will change the subject to mechanics, and say something about velocipedes, as I hear through the papers that they are coming into use in San Francisco. I would suggest that some person have one huilt with the Redstone mechanical device, patented April 29, 1862, (converting rotary into a reciprocating motion) and if it is not the hest arrangement that can he put into one, I am mistaken. The device may he constructed with a haudle upon the top of each,—the slide placed at quarter stroke; and as it works in a straight line over the axle, the handles may he hrought hetween the knees of the person operating the machine, and straight in front, so that much more force may he applied with the same exertion that is now used in propelling the present machine. This device I think will perfect the velocipede.

A. E. R.

Activity in Mining.—Not the Whlte Pine developments alone are causes of the increased interest in mining, which is ohservable at the present time. From the immense amounts of machinery, stamps, crushers, amalgamating pans, etc., that have passed through Stockton and Sacramento to the interior mining counties, every evidence is given that the development of quartz leads has received a new impetus; and a large amount of iron pipe has been manufactured in this city and in Nevada County especially for the hydraulic mines, to take advantage of the present rainy season; showing that gravel mining is, if anything, more than holding its own. Concerning Eastern sentiment on the subject, the Philadelphia *Ledger* says :

"The mining interests of the United States have heen attracting more attention during several months past. As an evidence of the truth of this, we see it stated that one firm heavily engaged in the manufacture of mining machinery, reports that it is in receipt of large orders in their line, and that they still continue to come. The going out of favor of mining operations in the last few years was not so much the unproductiveness at the mines as it was the breaking up of companies created by speculators, who hoped to profit hy the sale of shares."

[Written for the Mining and Scientific Press.]

Letter from Idaho.

Boise City, Jan. 8th, 1869.

The snows of the past three weeks have been very heavy, but not so much so as to stop mining at Yuba and Rocky Bar.

MINING OPERATIONS.

The Atlanta ore is richer than ever, and the silver is heing rolled out in sheets. The present streak is several inches wide, and right along the lode and apparently increasing as descended upon, assaying 75 per cent. silver. When an owner who has been absent a few weeks was told of it, he said, "that's nothing, we have becn taking rich ore out so long that we are not surprised if we strike a vein of pure metal."

The Leonora holds out as good as ever.

Chesley Woodward is preparing the Varieties lode for energetic spring operations.

At Rocky Bar all mills are suspended for the winter, hut the company under the superintendence of John McNally, Esq., are running a new tunnel ou the lower level, to strike the Wide West lode about 350 to 400 feet underground. This lode has hitherto proved rich, and the company want to know what they have got.

Jackson & Co. are runniug a tunnel for the Silver Star lode, in order to get the lode in shape for working or sale, as circumstances dictate.

Dr. Bishop, resident director of the Lucy Phillips Company, (English) has lately sent a large lot of specimens of ore from various lodes at Yuba, and a brick of hullion from each of those represented hy specimens, to Loudon, to be publicly shown there as samples of the "Gem of the Mountains," and if we mistake not it will make "phlegmatic John Bull" open his eyes to see how much Idaho will soon he ahle to do towards helping to give us a return to specie payments, in lieu of "old rags."

LOCATION OF THE RAILROAD FROM SALT LAKE TO PUGET SOUND.

The difference between the two routes from Salt Lake down Snake River, and in the vicinity of Boise City, now heing surveyed for the Union Pacific and Puget Sound Railroad, (spoken of in the last uumber of the Press) is this : By Camas Prairie or Malade River there is timber twenty miles up the Malade, with a good farming valley, and from thence there are at short distances small valleys where "garden stuff," etc., can be raised; and the whole route is a splendid grazing country, coming on to Willow and Indian Creeks, Sixteen-Mile Creek, and Boise Valley, iu all of which the land is good, and farmers are living. On the other route, it is "desolation," and there is not a mile of good land in the whole distance; and were the land ever so good, the nearest timber on the north of the Snake is twenty miles distant and on the south side ahont forty miles, while up the river it is a hundred or two, and down the river fully as far.

Qnery then—Which appears to be the route the railroad should go?

Big Camas Prairie is not more than thirty-five miles from Yuba hy directest route, and the same from Rocky Bar; and it takes in all the settlements now occupied, and in fact all that can reasonably be made of any consequence.

On the Snake River in the winters of 1864-5-6-7, the snow remained longer, and was much deeper than along the majority of the distance on the upper route. These things I know personally. There is not at present any snow to speak of, except in the mountains; the plains and prairies are hare, and the weather is warm as spring, grass growing on the hills. Perhaps for forty or fifty miles through the Camas Prairies there may be some snow, hut not enough to stop a railway engine.

If two feet, or two feet six inches of snow is causing alarm here to Col. Hudinutt and party, how will the Black Hills trouble them, and what of the Northern Pacific Railroad, which the Colonel concludes must be huilt to meet the requirements of the age? Again; the Owyhee people on the southern side of the Snake, do not want this railroad ucar them; what they need is a branch from Silver City to couuect with the C. P. R. R.; and thus they wish, as we do, to see the cars runuing through or near our town.

Alturas.

Mechanical.

Strength of Steel Rails in Winter.

One of the objections which have been made to steel rails for roads in cold climates, is their supposed liability to break or snap in very cold or frosty weather. Very elaborate experiments made by Prof. Styffe of Stockholm, have shown that this opinion is erroneous. Mr. Saudborg, in a paper read before the Institute of Civil Engineers, says:

"The trial of iron and steel for tensile strength under the influence of extreme temperatures, such as boiling water and at the freezing point of mercury, has led to the discovery, contrary to the general belief, that the tensile and absolute strength is greater during cold than during ordinary temperature; that is, iron or steel is stronger in winter than in summer. The reason why more breakages occur in winter than in summer is asserted to be the extreme cold affecting the elasticity of the supports, (sleepers); and it is said that elasticity in any way given to the rolling stock also favorably affects the resistance of the rails.

"However, if the supports have the same elasticity in summer as in winter, as, for instance, would be the case with granite rock, then Prof. Styffe asserts that the same rails, either of iron or of steel, can resist a heavier blow from a falling ball at the temperature of extreme cold than on a hot summer's day. Although the experiments have been conducted with the utmost care and skill that science and money can afford, it seems desirable that this theory should be proved on a larger scale than Professor Styffe has had an opportunity of doing, before it can be relied upon."—*Hewitt's Report on the Iron and Steel at the Paris Exposition, p.* 140.

The Engine of the Future.—The double-bogie engines of Fairlie are described under the above head by the *London Railway News*, as having a tractive power equivalent to the drawing a gross load of 390 tons up a gradient of 1 in 25, at a speed of ten miles an hour. The weight is so distributed over the twelve wheels, that the pressure upon the rails is actually less than that put upon it by the old style of engine. The fuel and water are carried on the engine itself, the necessity for a tender is dispensed with, and the whole weight carried is made available for adhesion or grip on the rails. The bogies are free to swivel on their pins, and each engine radiates independently of the other; so while passing round even an S curve, each bogie can accommodate itself to the direction of the curvature without in any way interfering with the action of the other. One of these engines has been at work for some time past on the Neath and Brecon Railway, and Captain Tyler described its motion over new and sharply-curved portions of the line as being so free from violent motion and oscillation, as to suggest to him the idea of "sailing."

Refining Iron without Puddling.—A new process, now in practical operation in Pittsburg, is thus described by the Clevelaud *Herald:* "The melted metal is taken direct from the blast furnace and run into a large kettle of a capacity of five tons. From thence it is poured, in a stream about a foot wide, into a circular trough, twelve inches wide and ten inches deep, revolving on a radius of seven feet, or fourteen feet diameter. Pulverized iron ore, Lake Superior, Champlain or Iron Mountain, is used as the converting agent. The ore descends from a hopper into the revolving trough, and covers the melted metal as fast as it is poured in. The continuous revolutions of the trough produce alternate thin layers of hot metal and raw ore, and effect the combination in a very satisfactory manner. The machinery which accomplishes this is moved by steam and hydraulic power, and is so well planned that one man, standing with his hands on valve-levers, can manage the whole operation. When the trough is full, and before the iron cools, it is broken up into slabs of suitable size for the beating furnace."

The Broad Gauge.—"We understand that after this day there will be only one broad gauge train run daily between London and Birmingham. On every other portion of the line the third rail is being removed, and laid down for the narrow gauge in other parts."—*London Railway News, October* 31.

Heaton and Bessemer.—The London *Times* contains a letter from Mr. Bessemer in regard to the absurd claims for the "Heaton Process." A portion of this letter, giving a concise and lucid statement of the difference in the products derived from the two processes above named, is here quoted: "In the Bessemer process, by simply forcing atmospheric air in numerous jets upward through five tons of molten pig-iron for a period of fifteen or twenty minutes, the iron is converted into fluid cast-steel; the oxygen contained in the air, uniting with the superfluous quantity of carbon present in the pig-iron, produces an intense combustion, and raises the temperature of the metal to the extremely high point necessary to retain the steel in a state of complete fusion, without the employment of any additional fuel; the fluid thus obtained, when poured into molds, forms a solid homogeneous mass of cast-steel, entirely free from ecoria or other mechanically mixed impurities.

But in the Heaton process nitrate of soda mixed with sand is employed to generate the necessary amount of oxygen gas for decarburizing the pig-iron, instead of employing the cheap gaseous oxygen of the atmosphere. Now, whenever solid substances are converted into gas, a vast amount of heat is absorbed and rendered latent; hence in the Heaton process so much heat is abstracted from the metal in generating oxygen gas by the decomposition of nitrate of soda that the metal solidifies while in a state of mechanical admixture with the sand and soda, and thus, instead of obtaining fluid cast-steel by his process, Mr. Heaton obtains only a lump of spongy, porous metal, intermixed throughout with slags and ecoria, and having the general characteristics and properties of ordinary puddled-iron or puddled steel, but which is only obtained at a cost (for nitrate of soda) of more than double that of the ordinary puddling process."

Boutet's Bridge.—We have already given the laugh of *Engineering* at this "*Pons asinorum.*" That journal finds it necessary to allude again to the scheme, for the benefit of those incompetent persons who have been induced to regard it favorably in consequence of the notice taken of it by several influential papers, and to warn such persons before they allow themselves to be imposed upon. The whole project is a wild one, and may easily be shown to involve a hundred impossibilities. In the first place, a buoyed rope is to be stretched across the channel from France to England, *as a ranging line*, to define the positions for the placing of the nine iron piers which are to be built on shore and floated to place. This rope will, it is plain, never be in the same position for two successive hours;—swayed and curved as it will be by the tides and currents, which will be constantly acting upon it. Again;—the iron cables to be stretched between the great towers, 360 feet high and two miles apart, *will break by their own weight* before they are tautened to within five hundred feet of their position! Many details of the scheme further show,—says the journal in question,—that M. Boutet, though doubtless in earnest, "is grossly ignorant of the most elementary laws of nature."

Electro-plating with Nickel.—It is reported that this has been successfully accomplished by a Boston chemist. The great difficulty to be overcome is to obtain a positive electrode, or the plate from which the metal is taken to be deposited by the battery on the articles at the negative electrode. Nickel is obtained only in small particles, associated with other metals, such as iron, copper, and cobalt, and is infusible by ordinary processes. Hence pure nickel is not easily obtained.

Large and Small Boilers.—Each have their advantages. In favor of large capacity are, steadiness in the pressure of steam, ready deposition of impurities, space for the collection of sediment, and freedom from foaming. In favor of small capacity are, rapid raising of steam to any required pressure, small surface for waste of heat, economy of space and weight (which are of special importance on board ship) greater strength with a given quantity of material and smaller damage in the event of an explosion.

Scientific Miscellany.

Cell-Structure of Metals.—A paper by W. Vivian, recently read before the Liverpool Polytechnic Society, presented some interesting points in regard to the microscopic structure of metals. Mr. Vivian classes metals under two heads, viz,, those the structure of which is angular or crystalline, and those in which it is cellular or porous. The cellular structure is most highly developed in those metals which we have found to be the best conductors of heat and electricity; and its perfection is in proportion to the capacity for such conduction. "The 'fiber,' or 'silky luster,' exhibited in the fracture of good iron,"—says Mr. V.,—"is only the effect of the light reflected from inner surfaces of myriads of minute cells exposed by the fracture. The form of these, in their normal state, is spherical, or nearly so, but becomes changed in the process of rolling. The mechanical properties of tenacity, ductility, etc., must greatly depend on the perfection of the cell system; a crystalline malleable iron does not show prisms in its fracture, but simply a number of faces or planes crossing the cells at right angles, cutting them off short. The process of rolling iron into plates or sheets does not obliterate these cells, but merely modifies them, as they widen out under the pressure; the thin partitions become laminated, and on the regularity of this lamination the quality of the plate very much depends. The cell system of copper is more perfect than that of iron, a result of the pouring of the copper into molds, but the cells are afterwards altered by the pressure in rolling, etc., but never destroyed. If it were possible to make a section one-millionth part of an inch in thickness these cells would be seen."

Discovery of Metallic Hydrogen.—Our readers will recollect the several allusions which we have made to Prof. Graham's experiments upon the occlusion of hydrogen by various metals. The last named of these metals was palladium. Further experimentation has resulted in convincing the Professor that the union, in this manner, of palladium and hydrogen, is in fact "an alloy of *hydrogenium*,—a white magnetic metal, of specific gravity about 2,—which appears to bear considerable analogy to magnesium." If Prof. Graham has really solved the question as to the metallic nature of hydrogen, he has made one of the most important discoveries of the century. The announcement has just been made by letter to Prof. Horsford, a communication from whom was read at a recent meeting of the New York Lyceum of Natural History, by Prof. Joy.

Man in the Palæozoic Age.—The following is from the Buffalo *Courier* of a recent date: "There are now on exhibition at the rooms of the Society of Natural Sciences, in this city, two of the most remarkable discoveries recorded in the annals of science. One is the fossil imprint of the foot of a man, or rather the cast of such an imprint. It was discovered by a workman, in a colliery in western Pennsylvania, in the shale overlying a run of coal and underlying two other veins which were being worked by the company. The spot where it was found was nearly a mile from the pit's mouth, and some 300 feet from the surface. The rock in which it was imbedded belongs to the palæozoic age, and the imprint, if such it be, was made millions of years before the present geological era commenced. It is the cast of the left foot of a man of ordinary size, and is perfectly defined. The foot was evidently protected by a sandal or moccasin; the heel, the arch, and the ball of the foot, and the slight depression made by the toes, are perfect."

"By a curious coincidence, the society, a few days before this donation, received the second specimen from the Rev. Samuel Cowles, of Gowanda. It is a large slab of sandstone, on which, stamped in the solid rock, can be seen the imprint of horses' hoofs, as perfectly preserved as though they were formed yesterday upon the muddy bank of a sluggish stream. There are at least a dozen of these impressions, varying in size from the track of the full grown horse to that of a young colt."

Arctic Exploration.—The French expedition to the North Pole will, if possible, start so as to reach Behring's Strait by the end of July.

Picric Acid Gunpowder.—Barlinetti, of the University of Padua, has mixed picric acid with KO, ClO^5, and finds the product to detonate under a slight pressure. He discovered also that a mixture of 10 saltpetre, 10 picric acid, and 8.5 bichromate of potash, behaves like the best sporting powder, without exploding by percussion. Finally he succeeded in leaving out the saltpetre, and producing a stronger powder, from equal parts of the other two. It is not hygrometric, leaves little residue, and may possess some advantages for certain uses.

M. Cleroitad has studied the applicability of *picrate of potash* as a gunpowder; and claims that it possesses advantages. It detonates at 590° Fah. In the open air its products of combustion contain cyano-hydric acid and NO^2, but in a closed space they are but nitrogen and oxygen gas, and KO, CO^2 mixed with carbon. The advantages claimed are its absolutely *definite* character, composition, and strength; absence of sulphur, which rapidly destroys artillery; ease and safety of manufacture, and insolubility in water. On the other hand, when dry, it has the same objection as gun-cotton, of exploding by simple percussion.

Alaska a Thousand Years Ago.—Prof. Carl Neumann, of Munich, a diligent student of Chinese antiquities and bibliography, has discovered from the Chinese year books that a company of Buddhist priests entered this country, via Alaska, a thousand years before Columbus. They explored thoroughly and intelligently the Pacific borders, penetrating into the "land of Fusung"—for so they called the Aztec territory, after the Chinese name of the Mexican aloe. The collection of antiquities recently made by Capt. Fast from graves, etc., in Alaska, consisted chiefly of carved ornaments and weapons, resembling those now made by the Chinese, and apparently belonging to a race totally distinct from the present Alaskans.

Microscopic Germs in the Air.—The following is from the Boston *Journal of Chemistry:* "At the Manchester (Eng.) Royal Infirmary, an ounce of distilled water in a pint bottle was aërated with the atmosphere of one of the wards until it had become slightly opalescent. In the deposit thrown down, after forty-eight hours, distinct evidences of the presence of organic life were perceptible under the microscope; and on the fifth day there were numerous actively moving vorticelli, with abundance of monads in ceaseless motion. From this it may be inferred, if the same experiments were repeated under varying circumstances, it might be shown that the presence in the air of microscopic organic germs is a constant condition easily detectable.

Plumage Pigment Soluble in Water. At a recent meeting of the Birmingham Natural History Society, says the *Colliery Guardian* of December 19th, Mr. T. Fidian exhibited the spectrum of the feathers of the touracon *(turacus albocristatus)*, as compared with that of blood, with which it is almost identical. This rare bird is found on the gold coast of Africa, and the specimen first brought to this country suggested the suspicion that they had been skillfully dyed, from the fact that upon being washed the scarlet color of the feathers disappeared. The remarkable discovery was, however, made that the natural red pigment of the plumage is perfectly soluble in water, and the still more remarkable one followed that it contained so large a proportion of copper that the feathers of one bird yield about three grains of that metal.

Flexibility of Itacolumite.—This mineral,—the laminated quartz rock which is the matrix of the diamond,—has been analyzed by Wetherill. He finds it to consist of 96 per cent. of silica, the remainder being iron and lime. Its specific gravity is 2.69. Its peculiar flexibility, which has been ascribed to the scales of mica which are scattered through it, is found by Wetherill,—who examined its structure carefully with the aid of the microscope,—to be one innumerable ball-and-socket joint which exist throughout its mass. This flexibility is such that a rod of it, supported at the ends, assumes the form of a curve;—very nearly the catenary.

Contributions for cur Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

No. 334.—Mountain cather, or mountain cork, a variety of asbestus, in which the fihers are no longer visible. It has the same composition, and in fact is the same mineral as hornblende, amphibol, tremolite, calamite, actinolite, amianthus, ashestus, etc.—silicate of magnesia, lime, alumina and iron, or manganese, which assnmes appearances so different as scarcely to be suspected of being the same thing, except by those who have traced the mineral through all its varieties. Mountain cather is a decomposition product, filling out crevices in veins. It looks like white-tanned buckskin, or coarse pasteboard, and in thin laminæ it floats on water. From the dump of the Eureka mine, Grass Valley, probahly obtained at about 400 feet depth. Presented by O. Hyde.

No. 335.—Iron garnets, or almandinc, in remarkably perfect tropezohedrons of one-eighth of an inch in diameter. From the island of Espirita Santo, Lat. 24° 28′ N., Lon. 110° 21′ W.; where they occur pleutifully in the decomposed rocks. Presented by Augustus D. Jenny, U. S. S. Lackawanna.

No. 336 to 347 inclusive. Suite of lithological specimens from the tunnel of the Imperial Silver Quarries Company, Monitor, Alpine Conuty—valnable because from them a geological section of the mountain might easily be constructed.

No. 336 (marked I).—Tho bedrock through which the tunnel has been run 560 feet, is locally known as porphyry. Unluckily onr specimen got mislaid before it was properly examined; it was a compact eruptive rock of plutonic appearance, and of the greenish tinge and general characteristics of diorite; thongh probably one of the porphyritic varieties of the lavas of which Silver Mountain is composed. The country rock proper in that district is granite.

No. 337 (II.)—calcspar, beautifully crystallized in geodes in I.

No. 338 (II A.)—Granular calcspar, very friable, found in streaks in I.

No. 339 (III).—Gypsum, fonnd in crevices in I. It is in delicate transparent needles, which are sometimes of a pink color.

No. 340 (IV).—Dark colored quartz from a stratum (or vein?) two feet wide between I and V.

No. 341 (V)—Trachytic tufa, containing mica crystals, called elvans in Cornwall; a fine-granular, rose colored rock, occurring in dykes and veins traversing the country, somewhat laminated in structure, from lateral compression probably.

No. 342 (VI.)—Mineral resembling a petrification (adjoining IV), but hardness only 3. Some hydrous silicate.

No. 343 (VII.)—A reddish metamorphic porphyry, fonnd in strata and nodules through V. Decomposition products similar to it are common in volcanic districts.

No. 344 (VIII.)—Quartz croppings, with geode containing minute crystals covered with iron.

No. 345 (IX.)—Sulphuret of antimony.

No. 346 (X, XII and XIII.)—Silicious concretions occurring in V, more or less laminated.

No. 347 (XI.)—Same as No. 338, but having a red streak of ferruginous quartz between the calcspar and porphyry.

Williamson's Commned Terrestrial and Celestial Glone has beeu attracting attention in the window of Roman & Co. It is a common globe inside of a glass globe, the latter having all the contellations marked upon it. With the aid of an accompanying book the geography and movements of the stars may be intelligently pursued, without a master.

White Pine Items.—All our exchanges are full of news about White Pine.

The Eherhardt *vs.* Richmond suit, which was on trial for two weeks at Austin, (Nev.) was given to the jury at half-past 12 o'clock, Jan. 23d, and after an hour's deliberation they rendered a verdict for the plaintiffs, standing nine to three.

Five passengers from White Pine arrived in this city night beforc last,—says the *Times* of Jan. 26th,—each the fortunate possessor of ahont $100,000, the proceeds of their season's operations in the newly-discovered Silverado. Three of the number had grown rich by selling the proprietorship, or shares, in well-known mines, and the two others, by selling, aud by the proceeds of mines in which they still hold considerable interests.

It is estimated that by the 1st of next June pay ore will be mined in profitable quantities from not less than five hundred mines. The locations have averaged one hundred per day for the last three months.

Near Shermantown there are said to be true fissure veins, the Irvine, for example, containing ruby silver, which mineral is characteristic of all appearing to be true veins around Treasure Hill.

Labor is $5 a day; lumber $225 to $400 per thousand feet.

Twenty-five or thirty freight teams pass through Austin daily for White Pine, and both stage routes via Elko and Austin, are still crowded and hooked ahead for several trips.

The principal mines on Chloride Flat being unable to get ore crushed, have gone to work sinking their shafts deeper, in search of new deposits of ore beneath the first. It was expected that rich ore would he struck at seventy feet from the surface.

Base Metal Lixiviation before Amalgamation.—Twenty pounds of White Pine base metal ore—malachite and azurite, or the green and hlue carbonates of copper—assaying $4,500 in silver to the ton, have just been treated by Adolph Hoffman, M. E., with the aid of the Kustel lixiviation process; the result being 31·64 ounces of silver, of .900 fineness, and of the value of $36.82. Had the ores beeu sulphurets, the treatment would have been quite the same; first roasting, to get rid of the sulphur, until withiu an hour of the usual desulphurization, then adding six to ten per cent. of salt, and chloridizing the base metals by a low red heat—the silver not being chloridized, or scarcely so, by anything less than a white heat, such as would again decompose the hase metal chlorides. As the latter—the chlorides of copper, lead and iron—are soluhle in warm water, nothing is to hinder leaching them out, and getting rid of them before amalgamating. All the copper in the solution is then saved by precipitating it with iron. Where the base metals cannot be beneficiated without previous roasting, and where salt is not too dear, this process is an economical one.

Proscriptive Duty on Foreign Copper.—Mr. Cole has laid before Congress a petition from the owners of the Napoleon, Keystone, Buchanan, and Nevada No. 56, copper mines, asking the passage of a law excluding by a prohibitory duty all descriptions of copper, but allowing the free importation, by drawhack, of the amount of carbonnte ores of copper necessary to the consumption and use of the sulphurate ores of the United States. The petitioners submit a draft of a bill to accomplish the latter object, which makes the refunding of the dutics contingent on the production of evidence by the importers that they have used the foreign carbonate or oxide copper ores for smelting purposes, in the proportion of one ton of imported copper ore to two tons of copper ore mieed in the United States.

Schulenberg's Concentrator.—We omitted to state in our notice of Mr. Schulenberg's modifications of the German percussion table, (in the Press of Jan. 16th) that a caveat has been filed for him through this office, and that Mr. Schulenberg's claim is that it will work very cleanly for 10 to 15 stamps, and will save, besides sulphurets, also float gold and quicksilver.

The South African gold fields are not as rich as at first believed.

The Chinese call California the Golden Mountain.

Explosive Agents for Mining Purposes. Mr. Abel has prepared pellets of compressed gun cotton, containing ahout three-fourths their weight of nitro-glycerine, and coated with some hard material. These pellets or grains are safely handled and transported, and are more powerful as an explosive,—it is said,—than dynamite. Lighted in the open air, they burn, but do not explode. But the great discovery of the day, in this direction, is that of Mr. Brown, of the English War Office Chemical Establishment. He has found that gun cotton alone, if exploded by means of a detonating fuse, is equal in effect to nitro-glycerine. Large blocks of granite, and heavy iron plates, have been shattered hy exploding in this way small charges of gun cotton simply laid upon the surface, and not in any manner confined. One who has seen gun cotton go off with merely a slight puff, when touched with a lighted match, will he surprised to hear this; but it is even so.

It would seem that a new era for the miner was ahout to commence. Tamping, the most dangerous of all mining operations, will be done away with. The discovery will interest the military engineer hardly less than the miner. A stockade may be demolished by a simple train of gun cotton discharged by a detonatiug fuse at one end. It is said that the subject is occnpying much attention at Woolwich and Chatham.

New Impetus and Methods in Prospecting.—Chloride and pocket deposits heing in quest, since the discovery of Chloride Flat, new ideas have been formed about prospecting, and fresh enterprises are set on foot for the exploration of the great interior,—which is no longer to remaiu as an nnknown wilderness. For intelligent prospectors a little reading up on the nature of the decompositions of vein minerals where the veins are weathered, or exposed to alkaline waters, would prove of the greatest value. Dana's Mineralogy contains perhaps the most information on the subject. Intelligence, and ample information about the nature of the minerals searched for, are the best equipments.

Concerning systematic prospecting parties which are organizing for operations in Eastern Nevada, one under Mr. Joseph Angell left Silver City lately, which took with them, among other things, a boring machine similar to those in use for sinking artesian wells, and sufficient pipe for boring to the depth of eighty feet, with the necessary tools for keeping the bits of their three-inch augur in proper condition. The first experiment with it was to be in the "cap rock" of Chloride Flat, if there was snfficient space found untenanted in that argentiferous locality for a hole of that size.

Steam Engine for a Flying Machine—or a Velocipede.—A five-horse power petroleum-burning steam engine, weighing only forty-five pounds, has just beeu made by Mr. Kallenberg, the model manufacturer and machinist, at No. 10 Stevenson street. It is intended for a flying machine which has been constructed in this city, the details of which are understood not to be in a position to be given to the public at present. Meantime it is suggested that so light an engine, furnishing five-horse power, would do very well for a velocipede; being certainly capahle of doing more work, against adverse grades, than one-man power. With rubber tires, and with such an engine, it is suggested that a three or four-wheeled velocipede, having large eight-foot wheels, might do some "tall traveling" up-hill or down hill. The boiler is constructed somewhat like the Harrison boiler, with a number of tuhes, which contnin the steam; so that it would be on impossihility for steam to explode it.

A vein of quicksilver has beeu discovered in Solano County, seven miles from Vallejo.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

For the Week Ending January 12th.

85,746.—Improvement in Plows.—David A. Manuel, Napa City, Cal.:

1. The landside D, when provided with tho vertical projection D′, the pivot *c*, tho slots *s s*, and the wedge-shaped extremity, all arranged and constructed in a simple piece of cast metal, snbstantially as described and for the purposes set forth.

2. The mold-board A, when constructed in the shape described and shown, pivoted at its middle to the rear edge of the landside by an arm C, operating as described, and provided with flanges *i i*, arranged under the landside edge at the ends; all constructed and operating in combination with the landside above described, substantially as and for the purposes specified.

3. The combination of the landside and mold-board above described, with the lever F, pivoted at *e*, and connected with a sliding lock-bolt *e*, arranged inside of the landside in a slot or chamber prepared for the purpose, substantially as described, and for the purposes set forth.

85,763.—Improvement in Governors for Steam Engines.—George T. Pracy, San Francisco, Cal.:

The cups J, springs C, arms F, and lugs I, combined and arranged substantially as described for the purposes specified.

A perspective view of this governor can be seen in our advertising columns. The same was fully described in our issue of September 10th, 1868. The inventor is manufacturing and introducing them with success, which is a good indication of their merits.

85,817.—Improvement in Steam Engine Cut-Offs.—Thomas Hanshrow, deceased, Sacramento, Cal. (Lucy A. Hansbrow, and B. B. Redding, executors):

1. The cylinder I and plunger *h*, in combination with the cut-off valve and seat, substantially as herein shown and described.

2. The arrangement of the cam M, arm K, governor spindle L, valve seat C, valve E, piston *h*, small cylinder I, and cylinder A, as herein shown and described.

85,833.—Improvement in Potato Digger. Seth Kinman, Eureka, Cal.:

1. The combination of the shovel K with fingers K^3, the two vine-cutters O O, and the two oppositely revolving wheels L, and M, constructed and arranged in relation to one another substantially as set forth.

2. The combination of the supplementary frame D, to which is attached the shovel and other mechanism for taking the potatoes out of the earth, and the main frame B, when the double tree D′ is attached to the former, and the tongue B′ to the latter, substantially as and for the purpose set forth.

3. The combination of the main and supplementary frames with the system of levers, shafts and arms for regulating the depth of the plow attached to the latter frame, substantially as set forth.

4. The combination of the main frame and supplementary frame, and the perforated rods E for adjusting the relative position of the two frames, substantially as set forth.

85,838.—Improvement in Gang Plows.—William Mason, Independence, Oregon.:

1. In a gang plow the bent axle hereiu described, consisting of the parts D D′, the part D′ being bent at right angles, and having one of its arms fitted in a socket on the end of the part D, the former being made adjustable relatively with the latter by means of uut *n*, and set screw *t*, as and for the purpose specified.

2. In combination with the frames E F, crank axle D D′, crank shafts J J′, and plows C C, the levers I K, connecting-rod M, and treadle N, as and for the purposo specified.

3. The arrangement and combiuation of the levers K L N, rod M, stops *a a a*, and crank shafts D D′ J; when said parts are constructed to operate in the mauner specified.

4. The lever N, when provided with the flange *i* and adjusting screw *s*, substantially as specified.

Rolling Mill.—Railroad iron and fixings, screw bolts, anchors, steamer shafts, aud a variety of forgings, are heing made at the Rolliug Mill. The Pacific Forge steam and trip hammer, formerly at the Mission, are now employed here.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, January 30, 1869

San Francisco Savings Institutions.

Annexed will be found our usual interesting statement concerning the savings and loan societies in this city, compiled upon the same basis as that of the interior savings banks, published by us in our last issue. This statement embraces the report of the eight institutions for the semi-annual term closing with 1868, as well as the aggregates since January, 1866, the date since which we have been compiling these data:

NAME.	Date of Organization.	Open Deposit Accts., Jan 1st	Deposits.	Loans.	Gross Earnings.	Reserve Fund	Expenses and Federal Tax.	Cash on hand.
Hibernia Savings and Loan Society	April 7, 1859	14,065	$2,846,307 34	4,750,863 77	260,211 29	$214,344 37	19,710 36	240,692 57
Savings and Loan Society	July 23, 1857	4,550	4,748,863 77	3,306,208 75	215,838 57	78,037 28	19,519 11	148,045 77
French Savings and Loan Society	Feb. 1, 1860	3,800	3,306,208 75	2,421,658 94	132,810 73	115,082 70	14,447 89	153,451 43
San Francisco Savings Union	June 18, 1862	3,577	2,421,658 94	2,35,184 20	132,810 73	115,082 70	14,447 89	153,451 43
Cal. Building, Loan and Savings Society	May, 1861	1,900	909,023 24	762,324 37	22,619 80	66,779 00	3,309 05	73,258 00
Odd Fellows' Savings Bank	Oct. 13, 1866	739	503,040 09	497,768 35	2,325 22	2,307 90	4,385 46	24,333 73
Farmers' and Mechanics' Savings Bank	July 1, 1867	352	151,269 09	139,301 30	10,597 16	10,597 16	4,400 45	16,098 16
German Savings and Loan Society	Feb. 10, 1868	935	448,681 29	476,134 64	17,540 79	40,637 15	1,400 45	23,886 63
Totals—January, 1869		29,893	$22,372,708 37	$19,658,464 07	$1,134,696 65	$736,986 49	$102,895 75	$1,026,119 51
Totals—July, 1868		26,085	19,658,464 07	16,838,465 99	955,853 17	551,867 88	91,914 53	1,024,090 75
Totals—January, 1868			16,838,465 99	13,218,690 22	843,917 40	485,700 07	68,520 77	824,381 08
Totals—July, 1867			13,218,690 22	10,193,914 18	694,310 89	470,079 46	64,931 69	1,100,508 17
Totals—January, 1867			10,358,884 40	8,827,110 05	564,459 85	326,936 92	48,718 88	892,760 11
Totals—July, 1866			8,760,184 52	6,754,302 83	432,750 54	272,918 94		830,980 27
Totals—January, 1866			7,005,051 63		306,060 80	236,935 63		674,668 10

The foregoing interesting table furnishes the very best stand-point from which to judge the financial condition of our working classes. It shows an increased aggregate deposit of $5,430,613 since January 1868, and of $2,694,144 since July of last year. The increase in the nnmber of depositors since Jnly 1868, was 3,828.

The dividends for the term of six months under review are as follows: Hibernia, 10 per cent. per annum; Savings and Loan, 10 per cent.; French, 11 per cent.; Savings Union, 11 2-5 per cent. on term, and 9½ per cent. on ordinary deposits; California Bnilding, 10 per cent. to depositors and 12 per cent. to stockholders; Odd Fellows', 12 per cent.; Farmers' and Mechanics', 10 per cent.; German, 11 2-5 per cent. on term, and 9½ per cent. on ordinary deposits.

We herewith give the increase and decrease of the several societies under the various headings in our tabnlar statement for the six months just closed, as compared with the semi-annnal reports made in Jnly, 1868:

HIBERNIA.

	Increase.	Decrease.
Open Deposit Accounts	1,900	
Deposits	$1,216,418 05	
Loans	1,144,326 48	
Gross Earnings	53,270 89	
Reserve Fund	35,796 32	
Expenses and Federal tax	2,125 66	
Cash on hand	155,902 08	

SAVINGS AND LOAN.

	Increase.	Decrease.
Open Deposit Accounts	137	
Deposits	$380,130 96	
Loans	384,803 71	
Gross Earnings	41,914 83	
Reserve Fund	35,240 12	
Expenses and Federal tax	2,157 06	
Cash on hand	31,808 44	

FRENCH.

	Increase.	Decrease.
Open Deposit Accounts	300	
Deposits	$210,867 51	
Loans	313,563 26	
Gross Earnings	34,334 13	
Reserve Fund	17,812 45	
Expenses and Federal tax	5,587 11	
Cash on hand	$52,929 77	

SAVINGS UNION.

	Increase.	Decrease.
Open Deposit Accounts	525	
Deposits	$396,874 99	
Loans	293,121 18	
Gross Earnings	24,067 01	
Reserve Fund and Stock paid in	10,398 93	
Expenses and Federal tax		$3,160 12
Cash on hand	115,346 04	

Included in the Reserve Fund is the sum of $90,000, being the amount of stock paid in.

CALIFORNIA BUILDING, LOAN AND SAVINGS.

	Increase.	Decrease.
Open Deposit Accounts	134	
Deposits		$24,817 18
Loans		4,902 07
Reserve Fund and Stock paid in	$49,592 97	
Cash on hand	27,103 72	

The Reserve Fund includes the stock paid in, and the "cash on hand" city bonds in their possession, the amonnts of which we have been nnable to ascertain. Neither have we been able at any time to obtain a full report, as from the other societies.

ODD FELLOWS'.

	Increase.
Open Deposit Accounts	198
Deposits	$199,812 36
Loans	202,572 14
Gross Earnings	9,792 60
Reserve Fund	1,008 12
Expenses and Federal tax	1,138 05
Cash on hand	5,811 67

FARMERS' AND MECHANICS'.

	Increase.	Decrease.
Open Deposit Accounts	81	
Deposits	$25,233 73	
Loans	37,524 55	
Gross Earnings	870 60	
Reserve Fund	2,307 90	
Expenses and Federal tax		$34 02
Cash on hand	24,610 96	

No Reserve Fund reported in Jnly, 1868.

GERMAN.

	Increase.
Open Deposit Accounts	553
Deposits	$290,123 88
Loans	320,420 89
Gross Earnings	14,180 79
Reserve Fund and Stock paid in	21,741 80
Expenses and Federal tax	2,947 48
Cash on hand	16,133 83

Included under the head of "Reserve Fund" is the sum of $40,000 capital stock paid in.

Mining Share Market.

We report a rather brisk market since our last similar reference, and a more general participation in the stock arena of claims of less intrinsic value than the usnal line of sales. We may remark an appreciation of several claims, hut, so far as reported, the merits of this improvement are not made manifest; however, several drifts in the lower levels on the Comstock ledge arc hopefnlly prosecuted.

IMPERIAL—improved from $139 to $149, and closed at $144 50. Further receipts of bullion, amounting to $9,861, have been credited to January acconnt, making $28,822 to date. On the 26th inst., the drift on the 1000 level had been carried in 3½ feet during the previons twenty-four hours. Both mills are running to full capacity, and from the Alta mine they are hoisting 140 tons of ore per day.

HALE & NORCROSS—advanced from $59 to $68, and closed at $68 50. This company is still running a single drift south, showing no material change. In the north drift they have not got the tunnel far enongh in to commence work on the ore. In the third station they are cutting out for a windlass, and will commence sinking a winze in a few days. The shaft is below the fifth station timbers about four feet.

GOLD HILL QUARTZ—is qnoted at $55@70. The receipts of bullion for January acconnt to date are $5,389 47.....CONFIDENCE rnled at $34@35. Bullion acconnt for Jannary, $5,696 36.....CROWN POINT advanced to $70, declined to $64, and closed at $66 25. The developments, as yet, are not cnconraging.

BELCHER—proved qnite active during the past week, improving from $18 50 to $21, and closing at $19 50. A telegram of the 21st inst., received at the office in this city, states "that they cnt a body of ore six feet wide, showing an average assay of $91. The vein going south from the shaft, on the 335 level, promises a large body of ore."

KENTUCK—has been less active than usual, selling at $235@241, and at the close realizing $232. The bullion receipts to the 22d inst., for January, show a yield of $57,827.....CHOLLAR-POTOSI sold at $168@172, and closed at $171 50.. For the week ending Jan. 22d, extracted 900 tons of ore. The 1100 station drifts, north and west, are in porphyry, and the south drift from the 920 rnns in clay mixed with lime and porphyry, and is now 90 feet from the shaft. ....OPHIR has advanced in price. On the 27th inst., the shaft had been timbered 692 feet, and the sinking had been carried 14 feet fnrther, making the entire depth 706 feet. So soon as the sump is completed, requiring about twelve feet more, drifting will he commenced on the 700 level.

NEW VARIABLE CUT-OFF.—We have received from M. C. Taylor, of Grass Valley, a model of a variable cut-off, for steam engines, which is simple in construction, and which appears, in view of the importance of the matter of cut-offs for economizing the expansive force of steam, to have met a desideratum. Mr. Taylor has applied for a U. S. patent through this office.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Amador Co., dividend, $6 per share	Payable Dec. 19, 1868	
Alamo, Lyon co., Nev., Nov. 25, 35c	Dec. 31—Jan. 30*	
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Belcher, Storey co. Nev., Dec. 31, $25	Jan. 30—March 2	
Crown Point, Storey co., Dec. 18, $7 50	Jan. 23—Feb. 15	
Chalk Mountain, Nevada co., Jan. 15, $2	Feb. 15—March 8*	
Chollar Potosi, div, $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12 1868	
Cosala, Sinaloa, Dec. 12, $1	Jan. 15—Feb. 4	
City R. R., San Francisco, Jan. 5, $5	Feb. 10—March 6	
Daney, Lyon co., Nev, Jan 9, $2	Feb 12—March 1	
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M. & M., Nev., dividend 1, $1	Payable May 15, 1867	
Gold Hill Cons., Storey co., Jan. 8, $4	Feb. 13—March 1	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Golden Chariot, Idaho, div., $2 50	Payable Jan. 10 1869	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, div 50c per sh	Payable Dec. 26*	
Mt. Tenabo, Lander co, Jan. 23, 75c	March 5—March 30*	
Empire, Nevada co., dividend 11, $1	Payable Feb 15—March 8	
Hale & Norcross, Storey co., Dec. 12, $5	Jan. 16—Feb. 6	
Hale & Norcross, div. $125	Sept. 16, 1867	
I X L, Alpine co, Jan 19, $1 50	Feb. 27—March 17*	
Imperial, Storey co, Dec. 15, $25	Jan. 18—Feb. 4	
Imperial, Storey co, Nev., div	Payable June 20, 1868	
Juan Bautista, Santa Clara co., Nov. 27	Sale Jan. 30	
Julia, Storey co, Nev., $2 50	Feb. 10—Feb. 27	
Keystone, Consolidated	Special Meeting, Feb 13	
Kentuck, div., $20 per share	Payable Jan. 19, 1869	
Mohawk & Montreal, Nevada co., Dec. 7, $3	Jan. 25—Feb. 9	
Morning Star, Alpine co., Dec. 9, $2 50	Jan. 11—Feb. 1	
North Amer. Wood P. Co., Jan. 15, $1	Feb 18—March 8*	
North Star, dividend, $5	Payable Aug. 15, 1868	
Oriental, Sierra co., Jan. 4, $2.50	Feb. 5—Feb. 20	
Peninsula, Storey co., Dec. 15, $10	Feb. 11—March 6	
Pacific Unassessable, div	Payable June 18, 1868	
Rattlesnake, Yuba co, Dec. 19, $7.50	Jan. 21—Feb. 8*	
Rippon, Alpine co., Oct. 15, $1	Sale Feb 5*	
Rising Star, Idaho, Nov. 16, $10	January 4—Jan. 30	
San Juan Bautesta, Santa Clara co	Sale Jan. 30	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Savage, Virginia, Nev, dividend, $4	Payable Dec. 12, 1868	
Sand Spring Salt, dividend $1	Payable Jan. 5, 1869	
Tallulah, Humboldt co., Dec. 14, $17.50	Jan. 29—Feb. 27	
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15—Jan 30*	
Virginia & O. H Water Co.	Dividend, payable Nov. 20, 1868	
Yellow Jacket, div., $100	Payable Jan. 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, January 29, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 80	80½
United States Bonds, 5 20s, 1864	81	82
United States Bonds, 5 20s, 1862	82	82½
Legal Tender Notes	74	74¼
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l Bds, 7s, 1856	91	—
San Francisco City and Co. Bonds, 7s, 1862	85	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	25	—
Sacramento County Bonds, 6s	65	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	66	70
Spring Valley Water Co	66½	67½
State Telegraph Co	25	—
GAS COMPANIES.		
San Francisco Gas Co	83	90
Sacramento Gas Co	—	73½
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	49	50
North Beach and Mission Railroad	67½	70
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	92½	91
Pacific Insurance Co	126	127
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	53	59
Baltimore American	—	—
Belcher	19	19½
Bullion, S. B	28½	29
Crown Point	66	66½
Cole (Va.)	—	—
Confidence	34	35
Consolidated Virginia	7	9
Chollar-Potosi	171	171½
Caney	2½	3
Exchequer	28	29
Empire Mill and Mining Co	125	130
Gould & Curry	108	1 0
Gold Hill Quartz	55	70
Hale & Norcross	63	63½
Imperial	144	145
Julia	2	2
Second Independent	5	6
Kentuck	232	233
Lady Bryan	13	13½
North American	18	19
Ophir	37	38
Overman	80	—
Segregated Belcher	8¾	9
Savage	77½	78
Sierra Nevada	28	—
Yellow Jacket	1450	1460
Union	—	—
United States	—	—
MISCELLANEOUS MINING STOCKS.		
Amador (California)	250	255
North Star (California)	—	—
Eureka (California)	220	230
De Soto (Humboldt)	—	2
Golden Rule, California	12	13

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, January 29, 1869.

Flour, Extra, ₱ bbl	$5 25	@$5 75
Do. Superfine	4 25	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 75
Oats, ₱ 100 lbs	2 10	@ 2 37
Barley, ₱ 100 lbs	2 10	@ 2 35
Beans, ₱ 100 lbs	6 00	@ 8 50
Potatoes, ₱ 100 lbs	50	@ 80
Hay, ₱ ton	12 00	@18 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	7	@ 8

GROCERIES, ETC.

Sugar, crushed, ₱ lb	17	@ 17
Do. China	10	@ 12
Coffee, Costa Rica, ₱ lb	18	@ 18
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	75	@ 1 00
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 50
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	40	@ 50
Isthmus Butter, ₱ lb	35	@ 40
Cheese, California, ₱ lb	15	@ 20
Eggs, ₱ dozen	50	@ 60
Lard, ₱ lb	12	@ 13
Ham and Bacon, ₱ lb	13	@ 15
Shoulders, ₱ lb	6	@ 8

Retail Prices.

Butter, California, fresh, ₱ lb	65	@ 75
do. pickled, ₱ lb	30	@ 35
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 45
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 50
Eggs, ₱ dozen	65	@ 75
Lard, ₱ lb	15	@ —
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	1 25	@ 1 50
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ —
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 6
Plums, dried, ₱ lb	10	@ 12
Peaches, dried, ₱ lb	10	@ 12
Oranges, ₱ dozen	75	@ —
Lemons, ₱ dozen	75	@ —
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	23	@ 25
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	—	@ 20

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, January 29, 1869.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2½c ₱ lb.

Scotch and English Pig Iron ₱ ton	$39 00	@$40 00
White Pig ₱ ton	39 00	@ 40 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04½	@ — —
Plate, No. 5 to 9	— 05	@ — 04½
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5½
Sheet, No. 24 to 27	— 05	@ — 6¾

COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	— —	@ — 26
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Bonding Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ 30
STEEL.—English Cast Steel, ₱ lb	— —	@ — 15
QUICKSILVER.—₱ lb	— 55	@ — 60
LEAD.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9½
ZINC.—Sheets, ₱ lb	— —	@ — 9½
BORAX.—California, ₱ lb	— 30	@ — 35

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

SOUTH VIRGINIA S. M. CO.—Lander County, Nev. Jan. 22d. Capital stock, $1,600,000; 16,000 shares, $100 each. Trustees: R. F. Morrow, G. W. Beaver, E. B. Stonehill, S. C. Estes and M. Ehrlich.

PECK S. M. CO.—White Pine district, Nev. Jan. 25th. Capital stock, $100,000; Trustees: E. T. Peck, W. A. Batemen, Louis Teese, Jr., H. J. Paine and T. A. Nichols.

GOLCONDA MINING CO.—White Pine district, Nev. Jan. 25th. Capital stock, $800,000; 800 shares, $100 each. Trustees: John D. Fry, Alvinza Hayward, A. P. Crittenden, E. T. Pease and J. F. Boyd.

TEESE S. M. CO.—White Pine district, Nev. Jan. 25th. Capital stock, $100,000; 1,000 shares, $100 each. Trustees: Lewis Teese, Jr., W. A. Bateman, E. T. Peck, H. J. Paine and F. A. Nichols.

HOLCOMB MINING CO.—White Pine district, Nev. Jan. 25th. Capital stock, $800,000; 8,000 shares, $100 each. Trustees: J. D. Fry, A. Hayward, A. P. Crittenden, E. T. Pearce and James T. Boyd.

FEATHERSTONE M. CO.—White Pine district, Nev- Capital stock, $400,000; 400 shares, $100 each. Trustees: M. J. McDonald, J. W. Gashwiler, S. Heydenfeldt, G. D. Roberts and E. B. Dorsey.

TREASURE TROVE M. CO.—White Pine district, Nev. Capital stock, $525,000; 5,250 shares, $100 each. Trustees: John C. Bower, John Achweitzer, Calhoun Benham, John Wieland, Wm. S. Byrne, Joseph Frontin and J. G. Sourdry.

CAYUGA CHIEF M. CO.—White Pine district, Nev. Jan. 27th. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: G. W. Beaver, J. Nightingale, R. G. Brown and J. A. Eaton.

THE LADIES, too, are said to have very generally accepted PLANTATION BITTERS as a means of relieving the nervons debility and derangement of the circnlation, to which so many of the sex are liable. It is certainly an agreeable restorative—so palatable, indeed, that it may properly be ranked among the Cordials. Its medicinal ingredients, about which no mystery is made, comprise some of the finest tonics and alteratives of the vegetable kingdom, and the vehicle in which these are administered, pure St. Croix Rum, is undoubtedly the most harmless and nutrimental of alcoholic stimulants.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Markleeville *Miner*, Jan. 16th: The Globe tunnel, which is now nearly 100 ft. on its way towards the great Hercules lode, which it will strike at good working depth in from 300 to 400 feet more, has enconntered of late very hard rock, but qnite recently is entering that of more favorable working character.

Chronicle, Jan. 16th: The Rippon Co. is getting ont better rock than heretofore.

AMADOR COUNTY.

Jackson *Ledger*, Jan. 23d: The owners of the Casco mine have determined to go down 200 ft. deeper. At present they are in a black greasy gonge, which is looked upon as a sign that a good vein is close at hand. The 20-stamp mill, erected by the owners, Haley & Hardenburg, is about one-fourth of a mile from the mine, on the bank of the Mokelumne river, and is without exception the best specimen of a mill we ever examined. It is run by water, of which there is an abundant supply the year round. The batteries are of the most substantial kind, and work like a charm. Four of Hungerford's conceutrators are attached to the batteries, by which all the snlphurets are saved.

The Coney Co. have determined to sink another shaft 200 ft. south of the present one 8x4 ft. in the clear. Steam hoisting works will be placed on it, and by this means the facilities for taking out rock will be doubled, and as their vein is a very wide one, they will be able to keep 40 or 50 stamps running nigbt and day.

The proprietors of the Kearson mine, near town, have obtained snch flattering prospects lately that they have determined to erect a mill on the lead dnring the coming summer.

Jan. 23d: Last winter, Green, Goodwin & Co. purchased what is known as Hartman's garden in Volcano, for the purpose of mining it out. They commenced work the 1st of April last, with a force of five men, and up to the 1st of December they had taken ont over $15,000. and the claim is good for many thousands more.

CALAVERAS COUNTY.

Mokelumne Hill *Chronicle*, Jan. 23d; A new custom mill is being erected at Railroad, by James Smart. The battery will consist of eight stamps. The motive power is to be furnished hy a burdy-gurdy water wheel.

The excitement in relation to the mines in the Railroad Flat district, continues unabated, and the probabilities are that it will prove such a powerful counter-irritant as to neutralize the White Pine fever in this section of the country.

On the Petticoat work goes steadily forward. The mill leased for crushing the rock—a 10-stamp battery—is never idle. The ore averages better than that taken from any other mine in the State, and the lead has been prospected sufficiently to establish its permanency beyond a shadow of a doubt.

Chapman & Co. have resumed labor upon their claim. They have a shaft 60 ft. in depth, the rock from which yielded largely. Owing to the lack of machinery for pnmping purposes, water has risen in the shaft 30 ft. At that point the company are running levels npon the lead. The rock being taken out will pay handsomely.

Sanderson & Co. have abandoned their old shaft and engaged in sinking a new one in a more favorable locality for working the mine. They have some 60 or 70 tons of rock ont, which will be crushed as soon as facilities offer. The lead is narrow but the ore is rich. The proprietors are sanguine that their mine will prove eqnal to the best.

Labor is being vigorously pushed forward on the Chemisette, owned by the Misses Lancaster, with highly satisfactory results. The shaft has not reached any great depth, but the ore, from the top down, prospects finely.

The Balmoral, another claim located and owned by ladies, shows well on top, no work having yet been done npon it.

Work is being prosecuted upon a large number of veins in the vicinity, and new location are made almost daily.

The Angels correspondent writes: The mines of this place are beginning to attract much attention, even from mining men in San Francisco.

About four months ago the Angels Mining Co. decided to sink 200 ft. on the vein; as they went down the lead improved rapidly, and at a depth of 300 ft. from the surface they have developed a well defined and paying vein, and are now, and have been for the past few months, making handsome dividends. The ore is of much higher grade than nearer the surface.

W. H. Bovee, who for the last two years has been working his mine successfully, has leased his mine to Crouise & Crossman, of San Francisco, for a period of two years, with privilege of buying. Mr. Bovee erected, last fall, a fine 50-stamp mill. Cronise & Crossman are opening up the mine and preparing to work on a much more extensive scale than has been done heretofore. Some very rich qnartz is obtained in this mine, and the ore of high grade on the average. In sinking, the Bovee mine, like many others, may be found in places to be partially mixed with slate, but there can scarcely be a doubt that it will prove one of the richest mines in the State.

The Sickles or Union quartz mine, is being worked by the owners with good success for the amount of work done. They have a 10-stamp mill on the claim, propelled by water power. The lode commencing at the Bovee mine and passing along through the Dr. Hill, the Angels quartz mine, the Lightner, the Utica, to the Stickles mine, seems to attain its greatest power and width at this point. Their ore is all paying ore and not mixed in the least with slate, as far as they have sunk, n depth of about 200 ft. The width of the vein ranges from 15 to 24 ft. of paying qnartz. The company are sinking and opening up their mine slowly.

The Mokelnmne Hill correspondent writes: As to the relative merits of the Sutter and Railroad Flat ranges of qnartz, the preference must remain with the Sutter, as the veins are large, true, and consequently permanent, while those of Railroad are, as yet, not sufficiently developed to make any calculations upon. The Sutter range of mines require a heavy outlay of capital to make them profitable, but when made so can be depended upon for many years, thus offering superior inducements for the investment of capital. On the other hand, the Railroad range is composed of thousands of small, segregated veins, rich, without doubt, as they prospect from $20 to $150 to the ton, and have the merit of being easy to find and not expensive to work when found.

And then we have the gravel range southwest from this town, which covers a greater extent of territory than I was aware of until my recent visit to Central Hill district. I can do no more than mention the different claims, as my limited time will not admit of anything like a description. Traveling from the lower end of Central Hill we pass the Monitor, Merrimac, Jackson & Co., Squiers & Co., Hatfield & Kane, Green & Guy, What Cheer, Rough Diamond, Bradley & Co., Petersou & Co.. Shaw & Co.

KERN COUNTY.

Havilah *Courier*, San. 19th: We understand that Messrs. Dalton, of Nevada County, are negotiating for the Adelphi and Countess Tyrone mines, and the mill connected therewith.

MARIPOSA COUNTY.

Mail, Dec. 22d: The old Washington mine near Qnartzburg, still coutinues to pay handsomely. We are informed that for two runs made last night, of 10 and 12 days each, there was realized $2,500 and $2,700, making an aggregate of $5,200; and this was obtained at an expense of $1,500—leaving a clear profit to the proprietors for 22 days crushing of $3,700.

We were shown, last Monday, a fine specimen, composed of gold and qnartz—the gold prevailing. It belonged to G. W. Payne, who selected it from among other rich rock which he is now taking out of a vein by him discovered and located. The lode is on the old trail from Mariposa to Colorado, We are informed that the vein, so far as prospected, gives every evidence of being rich. There are, doubtless, thousands of lodes eqnally rich lying hidden within a few feet of the surface in this county.

We learn that Mr. Charhonel has leased and intends to immediately commence working the Morning Star ledge. The Morning Star is near the Mariposa Creek, about one mile below the Frances quartz mill. It has been laying idle for some time, but is now in the hands of a scientific and practical miner, under whose management the vein will be thoroughly tested.

NEVADA COUNTY.

Transcript, Jan. 20th: The Brown claim, located on the blue cement channel near You Bet, continues to return handsome profits to the owners. After the last run of five days, less four hours, they took ont 18 lbs., avoirdupois, of dry amalgam. The expense of doing this was only about $400.

Jan. 23d: A correspondent, writing from Bridgeport township, sends the following: Last week Pat. Fogarty bought the whole of the tail flume in the South Yuba river, leading from Jones Bar. Consideration $4,000.

G. Tanner & Co. have located 1,200 feet on Green Horn Creek, commencing at Knickerbocker Cañon, and extending to Nebraska Cañon, for mining purposes.

For 10 days past mining operations have been entirely suspended at Yon Bet and Quaker Hill on account of the freezing weather. The miners are all ready, their claims being fitted up for a long run, and the present storm will, probably, enable them to commence operations.

The old Larimer mill on the Higgens ledge on Wolf Creek, is being thoroughly renovated and much improved. The mill will be in running order by February. One hundred loads of excellent rock are now out awaiting this time. The rock looks well, is of a blue color, shows free gold, and plenty of fine rich sulphurets. It is good for $50 per ton. They are now down about 125 ft. from the surface; at this distance the ledge is full 18 inches wide, is easily worked and promises well.

Jan. 24th: The storm at this writing is exceedingly favorable for mining interests. For a week or two past the ditches have been frozen and the supply of water scant for mining purposes in consequence. The present rain will soon break up ice and give abundance of water.

Gazette, Jan. 23d: We are informed by a gentleman from Forest Springs that qnartz mining in that locality is quite brisk. The Slate Creek ledge, owned by Perrin & Co., is now being worked with great energy. The company have spent $3,000 in opening new drifts. They have attained a depth of 370 ft. on the incline. The ledge at this depth averages two feet in width. Two tons are mined daily to each man, and eight men are now employed in the drifts, making an average of 16 tons per day. The rock from this mine, for the last year, paid from $18 to $60 per ton—averaging about $30. Perrin had crushed at his mill 1,001 loads, which produced in the aggregate $23,000. The articles of incorporation of this mine were filed in the County Clerk's office in this county a few days since. We learn that Mr. Perrin has purchased the extension of this mine, and has run a tunnel on the ledge from Wolf Creek into the hill 160 ft. which gives them about 600 ft. backs, the bill being very steep. The extension bids fair to become one of the best mines in that vicinity. Mr. P. has a water power quartz mill on Wolf Creek. He crushes the rock from two Slate Creek ledges, also from the Grant, and other claims in that locality.

Jan. 28th: Thos. Johnson and others have recorded a qnartz location, on a ledge situated in Grass Valley township, bounded on the north by that of Morton & Co., on the west by Mary's Ravine, and on the east by the claims of McClunes & Co. The ledge is called the Grecian Bend.

Grass Valley *Union*, Jan. 21st: The Kux Co. who own a good looking ledge in the bed of Wolf Creek, talk of incorporating preparatory to working their claims.

The Young Pines Co. will also incorporate at an early day, so that work npon their ledge may be carried on without the uncertainties of partnership arrangements. The Young Pines Co. own the south extension of the Grass Valley ledge, and their property is supposed to be valuable.

We hear that arrangements for the early resumption of work at the Allison Ranch mine are in progress, and that everything looks bright for the company.

Jan. 22d: The Eureka mine of this place has made its regular monthly dividend of $20,000.

The Garden City mine is now being pumped ont after a long time of idleness, and some good rock has already been obtained from it.

Grass Valley *National*, Jan. 21st: Frank Smith & Co. have located 400 ft. of ground on Fall Creek for mining purposes.

Jan. 22d: We recently visited the Empire mine and found everything progressing finely. The 30 stamps crush 40 tons of rock every day which pays from $25 to $30 per ton, without counting the specimens which are frequently found. We saw some of extraordinary richness which were brought up two days ago. The gold is saved at the Empire in a somewhat different manner than that employed at the Eureka. No blankets are used, but the gold is amalgamated in batteries and on copper plates alone. The sulphurets are separated by Hendy's concentrators, and then pass into the Baux & Guiod's separating amalgamators, of which there are 16. Quicksilver, cyanide of potassium, and bluestone are also put in these pans for six or seven hours, the pulp is drawn into another set of grinding pans, Howland's, where it is again ground to an impalpable fineness, and every particle of gold brought into contact with the quicksilver. The sand and other foreign matter is then flowed ont, and the pure amalgam to be retorted as usual. The Empire men claim that this method of working sulphurets is better than the chlorination process, because it not only is much less expensive but secures more gold. They have tried both ways. The Empire sulphurets contain about one-seventh of all the gold that is obtained from the rock, and in value vary from $30 to $300 per ton, the average value being about $80.

SAN BERNARDINO COUNTY.

Los Angeles *News*, Jan. 16th: A rich gold and silver mine is reported to have been discovered recently near the town of San Bernardino.

SIERRA COUNTY.

Downieville *Messenger*, Jan. 23d: Everything seems to be quiet in various parts of the county. There is no water yet to wash stock dirt. The miners commenced to wash at Port Wine, but had to stop, the water giving out, owing to the cold weather.

Rock recently mined by Ned Leonard from his ledge above the graveyard, is the richest yet taken out there, gold being visible in all portions of it.

The miners in the river are still working their claims, the river being as low as at any time during the summer. The boys who are working under the town, also set their pump at work a few days since.

A rich quartz ledge was recently discovered between Howland Flat and the Slate Creek House. The ledge is just below the Monitor sawmill, and is called the Lincoln ledge. The Lincoln, the Grant and the Colfax, have recorded their claims. The rock is said to look well.

The Gold Bluff Co. commenced crushing rock from their mine on Monday last. They have a large quantity of rock out, and men enough at work to keep the mill running most of the winter. The rock is rich, but how much it will pay to the ton we do not know. The mill is a 12-stamp water mill, and is capable of crushing about 18 tons in 24 hours.

SISKIYOU COUNTY.

Yreka *Union*, Jan. 17th: A nugget of gold weighing three pounds was taken from the claim of Poncho & Co., near Hawkinsville, on Thursday last. Its value is estimated at $500, there being some quartz mixed with it. It was found in the dirt about three ft. from the bedrock.

Lauer & Co. at Humbug, are now taking out quartz of a very superior quality from the Knapp ledge. The rock from this ledge has averaged a little over $50 per ton. Lash & Co. are engaged in running a tunnel into the Accidental which will strike the ledge about 105 ft. below the surface. The tunnel will be about 170 ft. in length.

Miners at Scott's Bar have returned to work again on the river claims.

The Scott's Valley correspondent writes: Joe Magill and others have struck No. 1 diggings near Capt. Haislip's store on the East Fork of Scott River. Hall & Co. have just struck it rich at Yellow Pine. They showed me three bits to the pan taken out this week, from these new diggings in the gulch near Hall's store. Hall informs me that the diggings are extensive, and are easily worked as the gold is mixed in the dirt from the surface to the bedrock, which is but from three to five feet deep. The prospects are that we will have lively times this spring on the East Fork and at Yellow Pine.

TRINITY COUNTY.

Weaverville *Journal*, Jan. 23d: The miners at Park's Bar are all busy and in the best of spirits.

The mining claims recently opened at Taylor's Flat are paying well, and the Washington Fluming and Mining Co. are selling all the water in their ditch.

The miners in and around Columbia are busy at work, but as the water has been in camp only a short while, none have washed up.

The Star mine, at American camp, has shut down for the present; but work will be resumed within a month, and will be prosecuted then more vigorously than ever before.

Hiskey & Stage are busy at work on the Grant mine, near the Star, erecting a large 10-stamp mill, with all the necessary hoisting apparatus for taking rock out of the mine.

YUBA COUNTY.

Marysville *Appeal*, Jan. 26th: We learn that the Pennsylvania ledge now being worked by superintendent Cummins, is 24 feet in width, and the entire rock pays well.

COLORADO.

Georgetown *Miner*, Jan. 7th: Hnependen, Wolters & Co., have shipped, since our last report, $700.60 in silver bullion, coin value. Owing to the scarcity of water, they are unable to run to their full capacity.

Schirmer & Bruckner took off, on Tuesday last, 1,348.5 ozs. of silver bullion, coin value, $1,820.47. The amount would have been treble what it is, had not their cupel given out.

Prof. Stewart has taken ont and shipped, during the month of December, 2,064.75 ozs. of silver bullion, coin value, $2,353.91.

Central City *Herald*, Jan. 6th: One mine on the Bates or Hunter, which is run by actual miners, produced last month with 20 stamps, 196 ounces of the retort worth about $4,150.

We saw another 519-oz. brick of silver at the Rocky Mountain National Bank yesterday.

There are some parties in this city who claim to have information of the discovery of new gold mines of unusual richness, in some gulches tributary to Snake river, about 300 miles north of Salt Lake. These parties are making preparations to emigrate to the new gold fields at once.

We saw a specimen of silver ore from the new district, on the head of Chicago Creek, yesterday, which was very rich. It had been burned in the fire, and the silver had oozed out in small globules. The prospectors of that district are going to organize some time this work.

A valuable discovery has recently been made on the side of the Mammoth Mountain, further up the gulch towards Central. It was made by Mr. Bolthoff, who has others interested with him. The lode shows a strong vein of rich quartz, in which particles of free gold can be seen without the aid of a glass.

The New York 35-stamp mill is one of the best paying institutions of Gilpin County. We happened in there the other day and found the mill full of ore, and the men all busy at work. The U. P. R. and Burroughs are at present supplying this mill with ore, but Mr. Hays says he could keep three times as many stamps constantly employed if he had them.

The Smith & Parmelee Gold Co. produced 933 ozs. of gold in December. They started up their 75-horse power engine yesterday, and to-day their new 25-stamp mill. They have 12 Bartola pans, and one large stone arastra, which will be run on blanket tailings. They expect to produce from 50 to 60 ozs. of gold a month from the pans. The mill is geared to drop the stamps 40 times a minute—running the stamps rapidly with coarse screens and changing the blankets every 15 minutes. They expect to treat 100 cords of ore per month with a 25-stamp mill.

IDAHO.

Owyhee *Avalanche*, Jan. 16th: Prospects in Flint district are in the highest degree encouraging. The Rising Star mill is turning out bullion at the rate of between $2,000 and $3,000 per day. The mill, in every department, is a complete success. We have been shown some specimens of ore taken from the lower level of the mine, which surpass in richness any heretofore found.

Boise *World*, Jan. 14th: There are 19 men wintering in Deadwood. The prospects are very bright for a most prosperous ensuing season of mining, and diggings which could not be worked last year for want of water can next season be thoroughly mined.

MONTANA.

Helena *Post*, Dec. 25th: We were attracted to the assay office of Stephen F. Molitor, Saturday, by the sight of a brick, which contained gold to the amount of $12,000, in currency.

Mining upon the Park ledge is now being more actively prosecuted than ever before. On the west end of the lead the Whitlatch Park Mining Co., is pushing forward its work with great vigor and is sinking four shafts at a rapid rate, all of which give evidence of the permanency and richness of the mine. One of the shafts in particular, that located between claims Nos. 4 and 5 west, has attained a depth of 60 feet and exhibits the most flattering results that have ever been secured in any section of the country. Excellent pay rock four feet in width there greets the miner.

The Union mine of J. C. Ricker is turning out some fine ore. There are already 1,000 tons of excellent ore ready to be crushed, and not less than 10,000 tons of equally good quartz in eight, in his immense shafts, tunnels and inclines. And this large body of rock, sufficient in itself for a year's supply to his mill, is being constantly increased.

For a week past the I. X. L. mill has been engaged in crushing rock for Mr. Whitlatch, taken from the discovery claim on the Park. Although this rock was unselected, 130 tons of it yielded $37.30 per ton.

The Sterling correspondent writes: Capt. Maltby, who has been running upon the Red Bluff rock during the past summer with most flattering results, has stopped his mill to clean up and renovate some of the machinery, but after a delay of a few days he will begin to crush quartz from other lodes. The Hobart mill, of small capacity, is working away in Lower Hot Spring district with a most favorable show of success.

The incline on the Gonu Extension of the Union lode is now over 20 ft. down, and the vein is still widening. The discovery shaft is 125 ft. east, by linear measurement, of the eastern limit of the Union, and directly on line with the improvements of the Ricker I. X. L., Whitlatch Union, and National Mining and Exploring Co. Solid granite walls enclose the vein, from the top down. Many of the specimens exhibit free gold, and the rock generally prospects splendidly.

From Highland we learn that Prof. Swallow's mill is now engaged in crushing rock from the Forest Queen lode. The mill has not ceased running since it first started.

NEW MEXICO.

A correspondent writes from Elizabethtown to the Colorado *Chieftain* of Dec. 25th, concerning the Moreño mines as follows: All work upon claims, except the development of quartz leads has ceased. Since the cessation of gulch mining, many rich quartz leads have been discovered, promising in their appearance, and abundantly supplied with wide crevices of the richest quartz. Prominent among these may be mentioned the Pacific, Great Eastern, Great Western, Grey Eagle, Empire and Eureka. There seems to prevail but one opinion in regard to the future of this mineral region. That the gold is to be found in quantities that will pay, has long since ceased to be a question of doubt, for the yield during the past season, even with the limited facilities for successfully working the mines, will compare favorably with any hitherto discovered gold country. Companies have been organized to commence spring operations on an extensive scale. Several new stamp mill have been ordered. Two mills are already in successful operation, one belonging to Maxwell's company, on Ute Creek, the other to Bartholomew & Lowthau, near the mouth of Humbug Gulch. The latter mill has not yet made a sufficient run to fairly test the quartz it has been crushing. The mill on Ute Creek is still in full blast and is daily turning out a large amount of bullion. In a little less than two days' running, 26 ozs. were cleaned up. This is about the average yield and the mine from which the quartz is taken is apparently inexhaustible.

The Moreño ditch will be completed early in the spring, in readiness to supply all the water necessary for gulch mining.

NEVADA.

HUMBOLDT.

Unionville *Register*, Jan. 9th: The Silver Mining Co. shipped this week 1,421 ozs. of bullion, and Fall & Co. shipped 6,612 ozs. of fine bullion.

Jan. 16th: Smart & Morrison are working the Syracuse mine, in Pantber Cañon, on the west side of the Humboldt range. Their prospects are of the most flattering character.

At a late meeting of the De Soto Co., it was resolved to take measures to resume operations on the mine in the spring. Preparations will be made for either the erection of a new mill or the purchase and repairing of the old Sheba mill.

The Winnemucca correspondent writes: John O. Twiss and Frank Shaw have bought the Weymouth Co's location on the Pride of the Mountain, and will commence work immediately.

Buck & Kunkel, on Monday last, sent below 15 tons of assorted ore from the Pride of the Mountain, labelled "Swansea."

REESE RIVER.

Austin *Reveille*, Jan. 19th: It is reported in this city that a fine body of rich ore has been uncovered in the vein of the Great Eastern mine, in the Twin river district.

The stage which arrived last evening from Belmont brought to this city six bars of bullion from the mill of the Belmont Co.—the product of ore from W. F. Leon & Co's El Dorado South.

We learn that a fine quality of ore has been found in the 300-foot level of the South American mine, about 30 feet to the westward. The vein is large at the point, but the stratum of richest ore is from ten to twelve inches thick.

Jan. 21st: We learned yesterday from Col. Wheeler, who returned from the Grant district a few days ago, that nearly all the ore there exhibits a fair proportion of gold; and in the case of the Poorman vein the assays of the ore gave nearly one-fourth gold.

White Pine *News*, Jan. 16th: The principal mines being unable to get their ore crushed, have gone to work sinking their shafts deeper in search of new deposits of ore beneath the first. It is the general impression that a succession of ore deposits or veins separated by intervening strata of limestone will be found in sinking shafts. So far as the developments have yet been carried in that direction they tend to confirm this theory. Many new shafts have been started lately for the purpose of striking this second vein, upper one being previously claimed and worked by others, and new locations are made daily for that purpose. The shafts are multiplying so rapidly in some parts of the flat as to leave scarcely room to dump the dirt taken from them.

The Belmont shaft, near the Applegarth cabin, and Emmet mine on Chloride Flat, struck a good quality of ore on Tuesday last, at a depth of about 25 feet. Another strike was made the day following on the flat next north of Chloride Flat.

WASHOE.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Jan. 20th: Wells, Fargo & Co. shipped from their office in this city during the year 1868, 3,912 bars of bullion, valued at $6,560,492.28.

The Twin Mining Co. at Silver City, are still working their claim with good results. They have lately sunk an incline in their lower level to a depth of 200 feet lower than they have ever gone before, and have found the most flattering indications of permanency. They will now be able to take out large quantities of excellent milling ore.

The South Yellow Jacket works, which were stopped last week to make certain requisite repairs to the brakes and other machinery, have started up again, and everything is running at full rate. One hundred and forty tons of ore were raised day before yesterday from the 900-foot level.

Jan. 21st: The total receipts of the Crown Point Mining Co. for the month of December were $38,573, and the disbursements $33,775. About 1,200 tons of ore were crushed, yielding $30.15 per ton.

The receipts from the Kentuck Mining Co., thus far on January account, aggregate $26,304.

During the week ending last Friday, 600 tons of ore were raised from the Chollar Potosi mine, averaging $41.53 per ton.

Jan. 22d: The new Ophir shaft is now down to a depth of 680 feet.

Jan. 23d: The Savage Co. shipped day before yesterday, by Wells, Fargo & Co., 22 bars of bullion weighing 1,414 pounds, and valued at $36,881.48.....On the 16th inst., the Crown Point Co. shipped $9,429.15. This mine shipped on the 17th inst., $5,497.....The total shipment of bullion from this city during the past week was 4,832 pounds, worth $134,890.28.

Jan. 24th: The Hale & Norcross Co. now have a body of fine ore, some six feet in width, in their north drift. It assays from $40 to $50 per ton.

BRITISH COLUMBIA.

Opening of New Coal Mines on Vancouver Island.—A dispatch dated Victoria, Jan. 21st, says the Wallace coal mines, at Soaquish, near the northern extremity of the island, are being rapidly opened. A tunnel has been driven into the side, and the coal is said to be equal to any yet discovered on the island.

Acoustic Oddity in a Water Fall.—A curious, though not uncommon phenomenon occurred at the Benton dam on the 18th inst. The water in the river, which had been raised a little by the rain of the day before, was running over the dam in an almost unbroken sheet of three to six inches in depth. One portion of this sheet—perhaps twenty feet broad—acquired in falling a tremulous or wavy motion, probably from the action of the air between it and the face of the dam. This vibratory motion produced a heavy, thunderous and oppressive sound like the low, deep notes of a large organ, or the roaring of the fan of a reverberatory furnace, which was almost deafening at a certain distance and position from the fall, although the quantity of water was comparatively insignificant. Close observation showed that the falling sheet of water was wrinkled or corrugated horizontally, like an old-fashioned *wash-board*, at intervals of six to eight inches between each wave or wrinkle. On a rough estimate, about thirty-five of these little waves fell per second. The noise could be interrupted for a moment by throwing a stone into the water at the crest of the dam, thus breaking up the wavy motion—but would immediately recommence. *Mariposa Gazette.*

Dr. John A. Veatch, the well known chemist and geologist, of this State, has been elected Professor of Chemistry in the Willamette University.

Enterprises and Developments.

The Vallejo Building Association will build forty tenement-houses at South Vallejo.

Elko already boasts a population of 250. Freight to White Pine is eight cents per pound.

Fifty-seven new vessels have been built in California during the past year, chiefly in San Francisco Bay.

It is said that 50,000 acres will be put in wheat this season between the San Joaquin River and the Coast range.

There are over 800 laborers employed at Mare Island. The amount of money disbursed on account of last months' service, was about $92,000.

A deed has been signed transferring over to Mr. Henry Meiggs the contract entered into with Mr. Arman, for the working of the Mejillones guano beds, on the western coast of South America.

A company has been formed to throw a dam across the outlet of a considerable valley eastward from Los Angeles, to make a reservoir which will supply a large body of water for irrigation.

A company is being formed at Vallejo to build a street railroad, from the north side of Georgia street, through Santa Clara, Virginia, Sonoma, Pennsylvania, Maryland, Sixth and Lemon streets, down to the railroad wharves, connecting the old and new towns.

Placerville now looks forward to a new era, in which horticulture shall be the chief basis of its prosperity. With cheap freights, cheap water, and a favorable climate, a rich soil, and a large population in the adjacent valleys, it may become the center of a better business than it ever had.

Coover and Franklin are about to set out 10,000 mulberry trees, in Los Angeles County. Mr. Prevost, the pioneer in the silk business, intends to make a plantation at San Gabriel. D. F. Hall, of San Gabriel, proposes laying out a silk town on the San José ranch, the land lying on both sides of the San Bernardino and Los Angeles road, about thirty-two miles east of Los Angeles.

The Mexican cedar and mahogany rate nearly as high for shipbuilding as the sal and teak wood of the East Indies. The live oak of Florida has long been famous, but it is surpassed in the quality and durability by the mahogany of Mexico. Some Spanish ships which were constructed of this material, were found to be as sound at the end of eighty years as when they were launched.

The Prospects for Additional Woolen Mills.—To show how little, comparatively, is yet being done in woolen manufacture on the coast, it is only necessary to state that the five mills in Oregon and the six in California are now running, all told, fifty-five sets of machinery (or about 22,000 spindles), while the Washington mills alone (one of the large corporations at Lawrence, Mass.) have in operation ninety-six sets of woolen machinery, and half as many more of cotton. Were the number of mills (or sets of machinery) doubled in California and Oregon within the next year, they would not consume the annual clip of wool. Folsom, with its water-power is suggested as an admirable place for the location of woolen mills and other manufacturing establishments.

Agricultural Manufactures are already quite extensive at Pacheco, Contra Costa County. The gang plows manufactured by Dalton, Whitmore & Gavin, and Betts, all of different construction and methods of coupling, and raising, are sold for $95 and $100, and about fifty of them have been made this season at the three shops. The three, four, and six-horse cultivators, chisel and scoop points, have, within the past year or two, become one of the great farming reliances, and are made at prices ranging from $37 to $80, and more than 100 of them having been made and sold this season, most of them by Dalton. The single cast steel plows made here are sold at an average price of $20, and about 60 have been made and sold. The large harrows, of which about 50 have been made and sold, range in price from $35 to $50. Shops at Walnut Creek, Danville, Antioch, Martinez, and other points in the county, have been full of like orders.

An Eyelet manufactory in Providence, R. I., is now turning out eyelets at the rate of 500,000 a day, and the export for a year has amounted to $3,000,000 worth. In 1867 we imported very nearly as many. This is an industry that has germinated and fruited since the war. Its success is doubtless attributable to some peculiar excellence of machinery.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:

Saturday Morning, Jan. 30, 1869.

Notices to Correspondents.

SOAPSTONE, Shaw's Flat, Tuolumne County. The value of soaptone depends upon its quality and adaptation for the particular purposes, which would create for it a demand, and fix the price corresponding thereto. Soapstone is not by any means a rare mineral; it occurs in many different varieties, and is a hydrated silicate of magnesia and alumina. It is the softest of minerals, being hardness 1 of the mineralogical scale. Its uses are to carve out uteusils of all kinds, especially such as are to resist heat, as gas burners, cookery utensils, furnace material, etc; it is also used for polishing, as a foundation for mixing colors, as tailors' chalk for drawing lines on cloth, etc. The Chinese Figure stone, agalmatolith, is mineralogically allied to soapstone, but is hardness 3,—equal to limestone. At present, soapstone has no market value in San Francisco. It has been offered to stove dealers for stove and furnace linings, but does not appear to be sought after for that purpose. It is one of those articles for which a demand may be created by manufacturing it into useful utensils or marketable products, or by finding out some special purpose to which it may be adapted.

MINER, Chorokce, Butte County.—To free quicksilver from lead, zinc, or tin, acids may be used; or the quicksilver may be retorted with a layer of charcoal powder strewn over its surface in the retort, to keep back the less volatile substances. Salt is mixed by some with the charcoal powder. By pouring a quantity of acetic acid over quicksilver, the lead in the latter being attacked, will rise to the surface in the form of a carbonate or white lead, which can be skimmed off. Nitric acid, diluted with double its quantity of water, may be used very effectively, agitation and a temperature of about 120° Fah., hastening the process. The crust in this case, contains mercury in the form of nitrate of mercury, which is recovered by digestion or boiling gently with nitric acid; diluting the solution, filtering, and then precipitating the mercury with metallic copper.

COMMUNICATIONS have been received from W. H. M., embracing notes of the Santa Cruz Tannery and Fuse Factory, Porter's Tannery (at Soquel), the Santa Cruz lime kilns, paper mill and powder works; the Gilroy Tobacco Factory, etc., which will appear in our next issue.

A. M., MENDOCINO CITY—It is not easy to recognize or to name the mineral from your description. Send a specimen.

CONCHOLOGY.—A collection of about a million shells, embracing nearly all the known species on this coast, and in the Pacific Ocean, the collecting of which occupied a period of thirty years, is for sale by A. Frick, at No. 562 Bryant street. This collection is valued at not far from $3,000.

Our Mining Stock Experiences.

The principle of developing mines of established wealth, or indeed of accomplishing any other great work promising certain rewards by combination,—in other words, by means of joint stock companies,—is undoubtedly correct. All of the great triumphs of man over matter, owe their execution to organization, effected either by a personal or arbitrary power, or by a combination of working powers having a common interest, and therefore selecting a common head. It was the personal and arbitrary kind that built the pyramids, but it is the republican kind of organization and combination that developed commerce, populated the oceans with ships, and accomplished the great works and triumphs of modern times; and even monarchy is an impossibility, and an absurdity unless it is based on a virtual republic in the shape of an aristocracy.

Most of the profits that individuals are to derive from mining as a permanent business, will have to come through combination. River gold, and chloride silver deposits, are soon exhausted, needing no especial combination of powers to unlock great stores of wealth; though it is not to be denied that even in their case colossal combinations may operate to effect. But the advantages are in favor of the lucky and shrewd, rather than of the powerful and systematic.

The first Washoe silver excitements flowered into an infinite multitude of theoretical joint stock companies. But the theoretical can be distinguished from the practical even in stock matters. Tuthill's History sums up the results, as they stood after the summer of 1864, as follows:

"The brokers vacated their offices; a few men went into insolvency. The masses pocketed their losses, and said little about them. They filed away their certificates of stock, lately so carefully treasured, as curious, useless pictures, tokens of experience gained, and pushed on with their legitimate business. It is astonishing, considering the amount of money that changed hands during the popular possession by this mania, how few were seriously injured by it. Wages were good, salaries high, business brisk. They paid high for their experience, and could afford it. The map of the country was written over with the localities of mineral deposits rich and abiding, though it might not pay to work them for some time to come. The prospectors had made a geological reconnoisance in force. As of all such preliminary surveys, the advantages were not immediately developed."

It is reported that steps are being taken to organize a stock board at Treasure City, which is to go into operation immediately on the completion of the telegraph line to that place, or about the middle of next month. Stock boards are like the market place or the plaza, centers of intelligence, convenient for making trades, and nothing more. But as fish will go after bait, it is not improbable that a number of brokers' offices will be doing an extensive business in buying and selling stock certificates (great numbers of which are being printed in this city) of unexplored mines at White Pine.

As to the opened and partially developed chloride deposits, brokers and others are afforded the finest opportunities in the world for legitimate gambling. In *bona fide* transactions it is a notoworthy feature of the White Pine mining developments that the greatest skill is exercised, and the best judgment commanded, in calculating the percentages of silver in the chlorides, and of the admixture therewith of earthy impurities; the parties concerned bringing to bear all the available lights as to the size and extent of the deposits in question.

THE Ninth Annual Report of the Gould & Curry mine has been received embracing statements by the President, Alphous Bull, and by the Superintendent, David Bowie, together with a diagram of the Bonner shaft, by J. E. James, C. E.

What the Standish Steam Plow Has Done.

This question is now asked with a good deal of interest by farmers, and especially by land-holders owning considerable tracts of arable soil in the level valleys. That the favorable reports with regard to the work done by the plow, and the building of a new plow of enlarged capacity, which is just completed at the Union Foundry, are justified by the successful manner, economically, in which the machine has encountered the test of practice, under intentionally unfavorable circumstances, will duly appear from the following particulars.

The Kilichor ranch, of 800 acres, between Clayton and Pacheco, Contra Costa County, is of a moderately rolling, gravelly character, and the ground is of that hard, dry and tough character which is peculiar to California; the exact consistency of which will be best understood by farmers from the fact that it required a team of three horses to draw a single 12-inch plow running four inches deep. The land was plowed last two years ago. In this the steam plow accomplished from two to three acres an hour,—three acres when everything was going all right,—plowing to a depth of five inches, and consuming from eighty to one hundred pounds of Mount Diablo coal to the acre; the plow pulverizing the ground thoroughly at the same time, and therefore requiring no additional harrowing. In good ground they accomplish easily from thirty to thirty-five acres a day.

Two men—an engineer, and a steersman who also raises and lowers the cutters—are required, together with a water-hauler; the total expense for which is less than $10 a day. Coal landed at Martinez costs $7 a ton.

The wear and tear consists in sharpening the twenty-four cutters; once for every twenty to thirty acres, at a cost of a bit apiece, and in replacing them with a new set of knives on an average once for every 1,000 to 1,500 acres plowed, at a cost of seventy-five cents apiece, being of cast steel, and containing about $18 worth of steal. In the other parts of the machinery there is no more wear and tear than there would be in ordinary machinery; the motion over uneven ground being so steady as not to do the least damage, and the engine never getting out of order necessarily during an entire season. The wear of the gearing is prevented by means of a flexible joint, which gives way when any hard substance is struck.

The cost per acre, from actual experience, was less than a dollar; the expense for fuel, and for attendance (including water hauling), being about the same, or half a dollar per acre.

As an experiment, alternate widths of fifty feet were plowed with the steam and the ordinary plow, in order to observe the different effect the two kinds of plowing would have upon the crops; and it was observed that owing to the very complete pulverization effected with the former, the soil looked moister, in a spell of drying weather which succeeded the plowing; the consequence being that the steam plow's crops grow faster. The owner of the land, Mr. Kilichor, paid $3 an acre (the ordinary gang-plow price being $2.50), and was so pleased with the work that propositions were made for the purpose of retaining the plow permanently on the place.

In traveling from Martinez to Pacheco—a very hilly and rough road—the plow had to ascend grades of one to six feet; and it has gone through holes presenting one to three feet. Good plowing has been done on one to twelve feet,—though the plow is intended for a level country.

For the gravelly soil at Kilichor's, soft iron knife arms were used, set like a coulter, in such a manner as to twist on striking a boulder, before breaking. Only a few of these were twisted in the course of a day.

The new plow referred to at the Union Foundry is for Mr. Miller, of this city, and is much larger than the present plow, having a working capacity of 100-horse power. It is destined for heavy and continuous service on a large tract of level valley land that will occupy it for the full season.

When harvest time comes, these plows are to be transformed into reapers and threshers, using straw for fuel.

Working up our Cotton into Batting, Wadding, etc.

The Mexican, Tahitian and Sandwich Island cotton, which comes here consigned to Murphy, Grant & Co., Badger & Lindenherger, and others, finds in California an eager and ready market, through the agency of new manufacturing enterprises, which are as profitable to the competent mechanics who are establishing them, as their products are useful and beneficial to the growing populations tributary to our manufacturing centers. Folk & Co., on Brannan street, take this cotton, and put it through the usual cleaning and carding processes, flatten it out into a light and fleecy fabric, which is then usually rolled up into bundles, like any other textile fabric, and sold for batting and wadding, such as tailors and dress-makers know how to use to great advantage in the interior parts of clothing; but here only a part of the batting is so disposed of, the rest being at once worked up, by a number of young ladies with sewing machines, into an article which will illustrate the advantage to all concerned, of establishing local manufactures, viz: quilts, or comforters for beds. Calicoes are bought by the case, the batting is laid between them, and the several parts are welded, in a few minutes, by passing them through the sewing machines, into a fabric as warm as a blanket, and a great deal cheaper, being sold for $20 a dozen. Folk & Co. have ten wadding and batting machines, made at Paterson, New Jersey, six of which are already running, and all the other machinery necessary for carrying on the business in all its branches; employing at present seventeen persons, of whom five are women, four men, and eight Chinamen. Another department of the establishment is devoted to reducing old and worn-out fabrics into their original fibrous state, by the use of burlap machines. This is the road that shoddy takes; but the product here is sold to upholsterers and mattress makers.

MURPHY'S MAP OF THE WHITE PINE MINES.—This is the latest and best executed of the maps of White Pine that has yet appeared, the artist being Vitus Wackenreuder, whose name is a sufficient guaranty of the character of the work. Mr. Murphy himself has the advantage of being familiar with every inch of ground represented; and the map, which is 2½x3 feet in dimensions, contains more circumstantial looking topography, and more mining locations than any of its predecessors; including the locality of the new discoveries to the south of Treasure Hill; Shermantown, and as far as the summit of White Pine Mountain towards the west; Hamilton to the north; and the easterly side of White Pine Valley to the east. From the mining locations as represented, two general directions may be deduced of the deposits of Treasure Hill: one of them in the line of Treasure Hill, or the Nevada Mountains in general, varying from 15° to 20°, *en masse*, according to the locality; the other northwesterly, about in the line of the ridge running to the north and west of Keystone City. Some of the locations on Chloride and Pogonip flats, belonging most nearly to the first named class, vary so much toward the southwest as to look like a spur, and to be entitled, perhaps, to be designated as a third class.

Mining and Chinese Labor.

By a card from the Miners' Union of Virginia City, published in the *Territorial Enterprise* of Saturday last, we see that self-protection in labor is the plea urged by the miners against the admission of Chinese labor into vein mines, where capitul is commanding the services of considerable numbers of white men. "We are determined," says the card, "that side by side with the Chinamen we will not work." Legislative representatives at Carson are asked to defeat the bill introduced for "An Act for the protection of labor," which proposes to punish assaults on Chinese fellow laborers, the same having been called into life by a recent lawless removal of thirty or forty Chinese laborers from Unionville, Humboldt County, by an armed mob. This, we are informed, is to be the "beginning of a conflict that will shake the State to its center."

The truth is that the employment of Chinese labor is one of the marked features, historically, of the development of this coast. By its aid we are passing, at one stride, from an undeveloped state into a permanent producing and manufacturing community blessed with all the advantages and comforts of centuries of civilization. If it is by any design of the author of mankind that gold and silver have attracted hither, by a sudden impulse following their discovery in our ripe age, the Caucassian races that came wandering westward by the Black Sea, then it seems no less strikingly a work of design, rather than of chance, that this Chinese labor has been given into our hands, to command and to direct, for the accomplishment of all the great works that we find we have on our hands to do. If our new commonwealth on the Pacific is destined to play the picturesque part in history that our first twenty years would forecast, not a little of it will be due to the use and the results of Chinese labor; as in the construction of the Pacific Railroad, of the Darien Canal, and of the great network of railroads in China, with its consequences; which are all immediately before us, and so near to us that we can say they belong to the present, rather than to the future.

Let the miners of Virginia City remember that there are Californians claiming the right, and suffered to exercise the privilege, of mining in China, as well as there are Chinese mining in California and her tributary States; that the rule would have to work both ways; and that it has been customary amongst civilized nations to condemn the Chinese policy of exclusiveness, until China herself has recently thrown open her promising fields to foreign enterprise, which is now trying to adapt itself to her conditions. The miners are certainly not afraid of the Chinamen on account of either the physical, or the mental superiority of the latter; so that there is no reason in the world why a Chinaman should not be allowed to have a "fair show," in the doing of work for which he is best fitted, especially when it is only an equally fair and liberal dealing towards Americans, on the part of the Chinese government, that will open to us at the same time an opportunity of doing work for which *we* are especially adapted, and give us the permanent moral ascendency over 388,000,000 of people.

Virginia City and Truckee Railroad. Two railroad bills are pending before the Nevada Legislature, for final action, the one authorizing Ormsby County to give the Virginia and Truckee Railroad Company $200,000 fifteen-year gold bonds, bearing seven per cent. interest, payable by the County Treasurer semi-annually, and the other empowering Storey County to give $300,000 of like bonds to the same company; both of which it is expected will be passed, and that the railroad will speedily become a fact. An order has been sent East for the iron rails.

Quail Hill.

More favorable results are reported, at length, from the pyritiferous talcose slates at Quail Hill, Calaveras County, in which Professor Silliman has been interested. The existence of gold ores disseminated somewhat in the nature of fahlbands, through our Jurassic slates where the auriferous quartz veins occur, was not only a fact of great scientific interest, bearing directly upon the origin and nature of our gold deposits, but of some consequence to those who simply knew, or cared to know, that streaks in the talcose slates in question assayed from $10 to $30. But the metallurgical difficulties which were encountered, have kept the Quail Hill mines under a cloud. Though the ores were limitless as to quantity—a deposit reported to be fifty yards wide at the surface—and so soft that one stamp could crush four tons of it per day, the actual yield from the milling proved only $3 a ton on an average, during ten months trial, and the expenditure, on the other hand, was $200,000. The nature of this metallurgical difficulty, which is now said to have been overcome, can only be inferred from the facts. Amalgamation during these ten months was done in the battery and in copper plates, probably in about the usual manner. The minerals were gray sulphuret of copper, or "fahlerz," an antimonial sulphuret of silver, iron pyrites, copper pyrites, galena, and sulphuret of antimony. As these, especially the fahlerz, have been quite successfully treated from time immemorial in Chili, it would seem that the difficulty was not a necessary one, unless it were caused by the nature of the gangue. Under the new regime the crushed ore was ground for two hours and a half in a Wheeler pan, with some chemicals described as "alkalies;" the mullers were then raised, quicksilver was put in, and the mullers made to revolve for two hours more, the pulp being thick, and kept at boiling heat by steam. The quicksilver is said to be rendered remarkably "clean and lively" by the chemicals, and the chemical action, whatever its nature, is such that but little of the base metal is taken up, the bars ranging from .900 to .973 fine in gold and silver—from .500 to .800 silver, and .030 to .250 gold; the bulk being silver, as is further illustrated by the following table of working results, from different streaks of from six to ten feet in width, as given in the *Alta* of Jan. 22d:

	Silver. Fineness.	*Gold. Fineness.*	*Pounds Worked.*
Purple Streak	.387	661	1,242
Rich Streak	.558	398	2,151
Silver Streak	.281	188	1,855
Lead, No. 1	.285	312	.....
Lead, No. 2	.782	458	.....
Tailings	.731	417	725

The yield of 400 tons worked during the last four months averaged $35 from the mine, and from $10 to $25 per ton for tailings. The large proportion of silver entitles it to rank as a silver mine.

The Earthquake Committee and Earthquake-proof Buildings.—The Sub-Committee on Structural Designs, from the Joint Committee on Earthquake Topics, have reported on the plans submitted to them. All the information that builders may desire, which is in the hands of the Secretaries, embracing plans and specifications of about all the different methods that have been proposed, are at the service of the public, though not yet in published form. Notwithstanding the fact that preference may be given by the committee to some one plan, it is still the privilege of builders to prefer any other amongst the multitude that have been offered. We trust that a liberal compilation will be made of all the facts and phenomena that can be of interest to Californians touching the nature and causes of earthquakes, and that the committee will not stint the publication of the same, with all the necessary diagrams.

Continental Life Insurance Company, 203 Montgomery street, corner of Pine.

Polytechnic Evening School.

Mr. Frederic Hollert, a graduate of one of the Prussian Polytechnic institutions, as well as of the more practical grade of *Gewerbe*, or mechanics schools, has fitted up a very large and well suited room in the Mining and Scientific Press building, for the purpose of giving personal and verbal instruction, by lecture and by practical illustration, in all of the branches connected with the mechanic arts and trades in the learning of which more than shop experience, and shop instruction, are requisite. This is certainly a most useful institution for San Francisco, and is deserving of the best encouragement that can be given to it especially from master mechanics, and from public spirited citizens who sufficiently understand the subject to appreciate the purposo and value of such practical instruction. The field of instruction embraces nearly everything that mechanics who wish to advance, will find it to their advantage to acquire; but especially mechanical drawing, architecture, construction, the indispensable principles of geometry, strength of materials, machine building, applied mechanics, physics, technological chemistry, etc. Mr. Hellert appears to be very competent; and the oral and personal method of instruction adopted is the sure method by which a large area of neglected ground can be got over in a very short time, while the routine course at the colleges usually requires years. The subject being named in which the student desires to become more thorough, Mr. Hellert defines the nature and relations of the ground to be gone over, furnishes him the names of the best text books, and puts him practically in the shortest road; accompanying him to his goal, and never failing to direct him also to the working world for practical examples. When such opportunities are offered in our midst, no working or thinking mechanic in San Francisco has the right to bemoan his accidental want of a thorough education, for here we have the elements of the best that is to be had in the world. Those who wish to rise in their particular trade by legitimate means, have the road opened to them by which they may attain to a proper degree of competency. The principles of all the sciences, which have been brought into existence by the necessary arts, are very few, and very simple, when given in substance, orally and by illustration, by a clear-minded and competent instructor.

Mr. Hellert's school is open evenings only, and we understand he has quite a number of apprentices now making commendable progress in drawing. Classes in algebra and geometry are to be commenced on the 15th of February, to meet twice a week.

Montana Resources and Developments.—Our correspondent from Helena, whose facile communication, signed "Everywhere," was observed in our last issue, will be heard from regularly, so that the readers of the Press may keep well informed of the resources and developments of that border land, which proposes to play its part with the entire family of the Pacific mining States, in the grander times which are ahead. The writer is a mineralogist himself, in editorial harness, and within fair view of his entire field. He will at the same time act as our agent and business representative in Montana.

Important Projects before Congress. Among the large jobs before Congress are the numerous Pacific Railroads, the Sutro Tunnel, the Osage Land Treaty, the Sandwich Island Commercial Treaty, Indian claims, land grants, State Department purchases, the Niagara ship canal, the Darien Canal, river and harbor improvements, the Yosemite Valley claim, the New Idria quicksilver claim, Tehuantepec and Alta Vela, admission of Colorado as a State, etc.

Mr. Nye has introduced a bill in Congress to encourage and aid the construction of a telegraphic cable between California and China, via Alaska.

Our Office.

The office of the Mining and Scientific Press is located in the second story at No. 414 *Clay* street, north side, just below Sansome. Here we have spacious accommodations, with our patent rooms, editorial room, counting room, newspaper and job printing offices,—all conveniently arranged and connected, and our facilities for dispatching business correctly and economically, better than ever before. Don't forget the number—414 Clay street, below Sansome.

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A. T. DEWEY. W. H. EWER.

Returned.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

O. M Taylor, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office, without fail.

A Short Engagement.—The person who visited Yuba, Sierra, and Plumas counties, last fall, as agent and correspondent of the Press, only continued a short time in that capacity.

Save Your Teeth.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

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It has real merit; as a means of removing pain, no medicine has acquired a reputation equal to Perry Davis' Pain Killer.—*Newport (Ky.) Daily News.*

It is really a valuable medicine—it is used by many physicians.—*Boston Traveller.* 26v17-1m

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Swedenborg as a Scientist.

Dr. Percy, than whom there is perhaps no better authority upon the subject of metallurgy, says, that although "the metallurgical works of this remarkable man seem to be very imperfectly known," none are in his judgment "more worthy of the attention of those interested in the history of metallurgy." These works constitute the second and third volumes of a series of three published in 1734, entitled *Opera Philosophica et Mineralia*. The *first* of the three, however, is of less practical or at least demonstrable, character. Its title is as follows: *Principia, or the first principles of natural things, being new attempts towards a philosophical explanation of the Elementary World.* The following summing-up of the contents of the work is from a notice, in the *Chemical News*, of White's life of Swedenborg:

The *Principia* is an endeavor to explain the origin and method of creation. Nature is asserted to start from "points of pure and total motion produced immediately from the Infinite," which motion is said to be vortical.

From the congress and compression of points are formed what he calls first finites, revolving on their axis under the impulsion of their constitnents; in this respect perfectly resembling the earth, although in comparison with the least things visible they are quite inappreciable.

Out of the first finites by still further compression are formed second finites, which are said to constitute the first element, filling the whole space of the stellar heavens and composing the solar vortex.

From second finites by yet further compression are produced third finites, which constitute the magnetic element.

Again third finites are compressed into fourth finites, or the third element called ether.

Ether under further compression becomes air, and air compressed becomes water, and water under similar treatment yields salt and all minerals.

Such, according to Swedenborg, is the derivation and possession of the elements. Derived from the original point is a ceaseless motion, whereby all subsidiary matter is maintained in vortical whirl.

For the confirmation of the theory he turned to the phenomena of magnetism. Prof. Musschenbroek, of Dortrecht, had published in 1729 *Physica Experimentales et Geometricæ Dissertationes* abounding in magnetic observations. These Swedenborg freely transferred to his pages, and applied them in proof of vortical motion. Musschenbroek held that magnetic attractions and repulsions observed no certain laws; Swedenborg on the contrary maintained that nowhere was order more demonstrable.

A cardinal principle with Swedenborg was the uniformity of creation—that size makes no difference; that the method of nature is everywhere the same; that the energy that shapes a dew-drop shapes a world; that the mechanism of an elephant's trunk and a fly is the same. This truth he considers of inestimable value, because by analogies drawn from the seen we may predicate the unseen, and deal with it as though it lay under our eyes.

Consistently, then, he applies his doctrine of atomic to cosmic creation. Suns are sires of systems; suns therefore consist of points of motion produced from the Infinite. The condensation of these points result in ether, which thrown off from the sun, breaks by attenuation, and collapses in plants; which spheres of ether by slow degrees condense to air, to water, to salt, to *terra firma*.

ATMOSPHERIC ROASTING AND DECOMPOSITION OF REFRACTORY ORES.—The Colorado City *Herald* says:

It has been proved by actual experience, that ore which has been exposed to the weather for a long time, is more easily treated. Ore from the Fisk and Gregory, which would hardly pay for milling, has been known to pay handsomely, after having been exposed to the weather for five or six months. In other mining countries, Russia for instance, ores similar to ours are exposed to the frost, rain and sunshine for years, and it has proved to be one of the most economical modes of getting rid of the refractory characteristic of the ore.

Weathering ores is a very common metallurgical process in all of the European mining countries.

THE ICE MACHINE OF M. CARRE.—This machine operates upon the principle that when a liquid substance, by removal of pressure, is forced to assume a gaseous condition, it will absorb heat. It consists of two vertical cylindrical vessels, of different size, at their upper ends connected by a tube; they are made of strong sheet iron; the largest of them has double sides, the space between them being hermetically closed, and at its upper part connected by means of a strong tube, with the upper part of the second smaller vessel, which is a simple upright cylinder and also hermetically closed; the vessel is filled with a strong solution of ammonia in water, or the so called *aqua ammoniæ fortior*. By the heating of this vessel the ammoniacal gas is driven out of the water, and if the double-sided vessel, at the same time, is placed in cold water, the pressure of the developed gas, will be sufficient to liquefy the gas itself between the double walls of the large vessel. As soon as this is accomplished, the apparatus is ready to commence the freezing operation, the water to be frozen is placed in a proper vessel of a thin well conducting metal closely fitting in the open space inside the double-walled larger cylinder, between the walls of which the ammoniacal gas has now been liquefied by the pressure produced by heating the smaller vessel. This smaller vessel being hot, is now suddenly plunged in cold water, the water confined inside which first had its ammonia expelled by heat, regains at once by means of the cold applied to it, its most intense affinity for this gas, it will absorb it with great rapidity, the liquefied gas in the larger vessel will be relieved from the pressure which brought and kept it in the liquid state, and it will consequently readopt the gaseous form, distil over as it were, to be condensed in the water of the smaller vessel, and this forced evaporation in the larger vessel, will be productive of such an absorption of heat from this vessel and the water contained in its center, that this water will rapidly be frozen to a very hard solid cylinder of ice. The above is from an article in the *Scientific American*.

A REMARKABLE MOUNTAIN OF SALT.—In the Pahranagat District, which lies in the southeastern part of the State of Nevada, about 180 southeast of Austin, is a remarkable mountain of pure salt. In small pieces it is quite transparent, and so remarkably hard as to require blasting. It is five miles in length, 600 feet in hight, and of unknown depth.—*Ross Browne's Report.*

WOOD CHOPPERS.—The Pacific Railroad Company has about 1,000 men employed chopping wood on the mountains in the vicinity of the Humboldt Wells. It is worth $8 per cord along the line of the road out that way.

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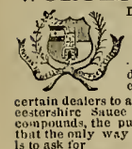
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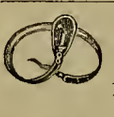
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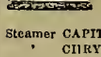
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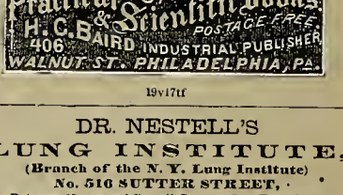

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Engineering.

[Written for the Mining and Scientific Press.

Concrete and Concrete Buildings.

The New York Society of Practical Engineering held its regular fortnightly meeting at the Cooper Institute Building, on Tuesday evening, January 5th; the President, Mr. James Whitney, in the chair. Wm. B. Harrison, Recording Secretary.

The subject for the evening was "Concrete and Concrete Buildings," and a paper on that subject was read by Mr. Charles Rogers, of New York city. The writer first spoke of the use of mortars, cements, etc., among the ancients. The Egyptians he regarded as among the first who carried the use of mortars to any degree of success. The mortar of the pyramids is a sample of the material used by this ancient people. The works of the Egyptians have proved more durable than those of the Romans, built in the same country, showing their superior skill. In Rome we find many of the great ancients are writers on architecture. As to hydraulic operations, the works of the Romans were very differently constructed from ours. The properties of our hydraulic lime, however, must have been wholly unknown, for we know that in the construction of bridges, the coffer dam in which the piers were built, were kept empty of water for at least two months after the masonry was laid, so as to give the mortar time to set. The Roman mortars were composed with few exceptions of pure lime mixed with fragments of bricks coarsely pounded. Such a mortar was used also for hydraulic purposes. The solid substances probably hastened the dessication of the mortar, concrete and *beton*, great materials of modern times, are now regarded as the same thing, at least for practical purposes. Formerly the terms were not considered synonymous. The names are now applied to a mixture of mortar (generally hydraulic mortar) with coarse materials, such as gravel, pebbles, shells, or fragments of stones. The proportions of mortar in concrete should be determined in accordance with the principle, that the volume of the voids in the coarse materials should always be somewhat less than that of the mortar. Fat lime concrete has been shaped into large blocks to be used in walls, like ashlar work. English architects manufacture their concrete by reducing the thoroughly slaked lime to a pulp, and making it into a mortar with the sand, before the coarse materials are added. In the United States the base of concrete mortars is almost always a natural hydraulic cement, to which a paste of fat lime is sometimes added. Here it is used as soon as made. Concrete has been put to every important use,—as a foundation in light and springy soils, for buildings. For submarine masonry, it has received extensive application, being regarded as a reliable substitute for bricks, and sometimes for stone. It has been used for the walls and floors of cisterns, and for the backing of walls faced with brick, rubber and ashlar work. Single ornamented, monolithic masses have been made of concrete. Concrete houses have been built in the United States and Europe with hollow walls, and the practice is daily receiving more attention. Their advantages are, that they afford safety, or rather, a partial safety in case of fire, and give an opportunity for managing the fire, smoke, and ventilating flues. They also secure a partial equality of temperature during extremes of weather. Concrete as applied to sewerage and drainage purposes, was spoken of, and the manner of making pipes of this material described.

Prof. Wm. Robinson.—The setting or drying of mortar may be attributed to two causes, evaporation and chemical combination. The principal cause is the former. In one of the citadels of Europe which has been standing for 156 years, mortar has been found in the interior as soft as the day when it was laid. Hydraulic limes are principally composed of a mixture of lime with clay. Caution must be exercised in the calcination, as too high a temperature injures the materials. No more heat is required than is sufficient to expel the carbonic acid. The power of resistance to rupture in the case of pure hydraulic cement is equal to fifty-four pounds per square inch. This power decreases exactly in proportion as sand is added.

The President.—The manufacture of artificial stone (familiar to the readers of the PRESS) is perhaps one of the greatest advances in this branch of modern industry. There is also a German invention in which carbonate of lime and sand are mixed with caustic lime, forming a mortar.

Mr. Parmelee.—A concrete ship must certainly be the last application of concrete. I saw a few days since a ship in which the steel plates which formed the hull were lined with concrete to the thickness of four inches.

COMPLETION AND PROFITS OF BUILDING THE PACIFIC RAILROAD.—The report of Mr. J. L. Williams, Government Director of the Union Pacific Railroad, is printed the New York papers. He estimates that by the 4th of July next, the Central Pacific and Union Pacific Railroads will have met at Monument Point; but the Central Pacific has been gaining distance recently, and will probably force the junction to a point farther east, at or near Ogden City. Mr. Williams is a practical engineer, and estimates the profits to contractors upon the Union Pacific Railroad at $14,000 to $16,000 per mile, or a total to the stockholders—who are at the same time the contractors—of not less than $16,000,000.

LIGHT HOUSES AND REFUGE STATIONS IN MID OCEAN.—It is proposed that large iron buoys be anchored below the surface in the middle of the Atlantic Ocean, out of the reach of currents or surface storms, and used as foundations on which light-houses could be built. Some plan similar to this was suggested many years ago by a brother of Prof. Morse; and it is revived by a writer in the New York *Herald* in commenting on the fact that one of the boats which left the sinking steamer Hibernia has reached the coast of Ireland after a voyage of nearly 700 miles, during which the majority of the passengers died from privation and exposure.

TIDAL OBSERVATIONS AND TIDE LAND SURVEY.—G. F. Allardt, C. E., and a corps of ten assistants, are engaged, in continuation of work undertaken for the State Tide Land Commissioners, between Black Point and Fort Point, following the line of twenty-four feet water at low tide; pursuing the same thorough system of tidal observations and soundings which was followed in the survey recently completed of the southern portion of the city and county.

CLEANING OUT THE SAN JOAQUIN FOR NAVIGATION.—Capt. Woodruff, of Sacramento, is now engaged, with the steamer Rainbow, in clearing the snags out of the San Joaquin River, at the same time removing all the overhanging trees; the estimated cost of which will reach $40,000. The steamer's rigging for hoisting snags will raise a weight of forty tons, and the force employed is twenty men.

STOCKTON AND TULARE RAILROAD.—On the 20th inst., Mr. Kidder, engineer of the Stockton and Tulare Railroad, and a corps of assistants, commenced the work of surveying this road. The point of beginning was a short distance south of Mormon Slough. The company have purchased from Captain Weber several blocks of land on the south side of Mormon Slough as a site for a depot, machine shops, etc.; in addition to which Capt. Weber has donated to the company an improved and valuable tract—the company being required to pay for the improvements only.

CABLE LAYING TO THE "ENDS OF THE EARTH."—An English admiralty surveying vessel is now employed in surveying a route for a telegraphic cable between Java and Australia—which means telegraphic communication between Australia and Europe, an extension being likely to be made from Java to Singapore, Ceylon, and Point de Galle. The lines about to be laid down between the China ports, are to be joined to the American and European line.

THE Willamette is to be bridged at Portland, Oregon, by the corporation of that city.

[Written for the Mining and Scientific Press.]

What They are Doing at New Almaden.

THE FURNACES.

EDITORS PRESS:—Seven large furnaces, employing fifty men in the manipulation of the ores, and five hundred men under ground, constitute the present operating and working forces at the Hacienda—the first place you come to after leaving San José, and thirteen miles distant. The furnaces hold from forty to fifty cars full, of 300 pounds each, of ore, and make from four to five campaigns per month. The condensing chambers and chimneys run up on the side of a hill, to a hight of 175 or 200 feet, where the white smoke issues, killing all the grass around.

I observed that some of the men working about the furnaces were trembling, and was informed that one of the boys had just been taken to San Francisco for the hospital.

Root's patent blowers furnish the blast to melt the ores; running day and night, of course, until the campaign is ended.

SODA SPRING WITH PLENTY OF CARBONIC ACID.

There is in the yard of the New Almaden works a soda spring, belonging to the company, which shows an unusually large quantity of carbonic acid, and furnishes a very fine drink indeed. I understand it has been leased for five years to Mr. F. L. A. Pioche, the banker, on Montgomery street. This water is claimed to be the best soda water in the State, in virtue chiefly of its carbonic acid.

THE MINES

Being only 1,000 feet distant, all the ore comes down in cars, and is dumped in at the top of the furnaces—the metal flowing out through a pipe at the bottom, into kettles. They are very particular here about entering the mine. I obtained a permit through the favor of Dr. J. E. Mayo, the Superintendent. The mine has been paying constantly since 1846. Inside I found some Mexicans employed still in packing up ore on their backs. Two blacksmiths were working away there. In some places the chambers are fifteen to twenty feet high, and ten to twenty feet wide. All of the ore is taken out at the main shaft; and there are twenty-five Mexicans engaged at breaking and sorting.

The miners work by contract, from thirty to fifty in a company. They are either Spanish, or Englishmen.

For hoisting, there are three engines in the mine, of 24, 18 and 16-horse power, driven by steam generated in four boilers outside, and conveyed into the mine through pipes.

This being my first visit here, I will venture to state my impression that these mines are quite a curiosity, for anybody to visit.

THE GUADALUPE QUICKSILVER MINE,

Eight miles from San José, is passed on the way to San José. James F. Brown is the Superintendent, and there are fifty men employed throughout. The shaft is in a valley near the creek, and is 400 feet deep. Next week twenty more men are to be set to work. Yours, etc., W. H. M.

San José, Jan. 20, 1869.

A GOOD ENTERPRISE.—William H. Toby & Co., advertising agents on the San José and Gilroy railway route, and now acting as commission and purchasing agents for the people along the line. This is a decided convenience. The many benefits of the railroad system are beginning to be better appreciated in California, and we hope soon to have local roads running in every direction, as they are to be found throughout the Eastern States.

BASE METAL ORES IN IDAHO.—Guido Kustel, the metallurgist, is engaged at the Rising Star mine, Flint District, Idaho, in introducing his base metal lixiviation process, for the treatment of the gray copper (fahlerz) and other cupriferous ores encountered in that mine, before subjecting the pulp to pan amalgamation.

HENRY CAREY BAIRD,

Industrial Publisher,

No. 406 Walnut Street, Philadelphia.

HAS RECENTLY PUBLISHED

A Practical Guide for the Perfumer; Being a New Treatise on Perfumery the most favorable to the Beauty without being injurious to the Health, comprising a description of the substances used in Perfumery, the Formulæ of more than one thousand Preparations, such as Cosmetics, Perfumed Oils, Tooth Powders, Waters, Extracts, Tinctures, Infusions, Spirits, Vinaigres, Essential Oils, Pastels, Creams, Soaps, and many new Hygienic Products not hitherto described. Edited from Notes and Documents of Messrs. Debay, Lunel, etc., with additions by Professor H. Dussauce, Chemist. 12mo..... $3 00

Cabinet Maker's Album of Furniture: Comprising a Collection of Designs for the Newest and Most Elegant Styles of Furniture. Illustrated by 48 large and beautifully engraved plates. In one volume, oblong..... 5 00

The plates of this beautiful volume comprise designs for bedsteads in great variety; chests of drawers; wardrobes; dressing bureaus; tables for the chamber; work-tables; extension dining tables; card and chess tables; parlor tables, Louis XV. and other styles; other tables; chiffoniers; ladies' and other secretaries of different forms and styles; toilet tables and glasses; desks; book-cases; sideboards, etc., etc.

Gothic Album for Cabinet Makers: Comprising a Collection of Designs for Gothic Furniture. Illustrated by 23 large and beautifully engraved plates. Oblong..... $3 00

The plates in this volume comprise designs for sofas, arm and other chairs, stools, taborets, prie-dieu, tables, chests of drawers, wardrobes, chimney-pieces, side-boards, pier tables, etageres, desks, book-cases, etc.

A Practical Guide for Puddling Iron and Steel.—By Ed. Urbin, Engr. of Arts and Manuf. A Prize Essay read before the Association of Engs. Graduates of the School of Mines, of Liege, Belgium, 1865-6. To which is added a Comparison of the Resisting Properties of Iron and Steel, by A. Brull. From the French, by A. A. Fesquet, Chemist and Engineer. 8vo., cloth..... $1 00

☞The above, or any of my publications, sent free of postage, at the publication prices. My new and enlarged CATALOGUE OF PRACTICAL AND SCIENTIFIC BOOKS, 56 pages, 8vo, is now ready, and will be sent free of postage to any one who will favor me with his address. 20v16tf

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Pacific Mail Steamship Co's

STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at **11** o'clock A. M. of the following dates, for PANAMA, connecting with Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the **6th, 14th, 22d** and **30th** of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR JANUARY, 1869.

The following Steamships will be dispatched on dates as given below:

January 6th—SACRAMENTO.....Capt. W. H Parker, Connecting with ALASKA, Capt. Gray

January 14th—MONTANA.....Captain A. We Connecting with RISING STAR, Capt. King.

January 22d—CONSTITUTION.....Capt. Wm. H. Hudson Connecting with HENRY CHAUNCEY, Capt. Connor.

January 30th—GOLDEN CITY.....Capt. W. F. Lapidge, Connecting with ARIZONA, Capt Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained Orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—If desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship GREAT REPUBLIC, Capt. S. Hoane, will be dispatched on MONDAY, January 4th, 1869, at 12 o'clock M., from wharf corner of First and Brannan streets, for HONGKONG, connecting at Yokohama with the steamer COSTA RICA for Shanghai.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

IMPROVED INNER SOLES

—FOR—

BOOTS AND SHOES.

Those who have worn Daggett's Patent Elastic Ventilating Inner Soles, are unanimous in testimony that the correct principle has been fully found and reduced to practical and successful use. The foot rests upon a cushion of air cells between points of vulcanized rubber, every cell opening freely into each other and through the space occupied by the foot. There is no contact of the foot with the wet bottom of the boot. The elastic points sustain the weight of the wearer, leaving an air space always, between the foot and all dampness. Every step compresses and restores the air chambers, thus constituting hundreds of air pumps at every step of the foot.

The rubber points will not absorb the moisture from the boot, so that the soft flannel which covers them is always dry. Their springing elasticity renders them of peculiar value to the aged and infirm, who feel the jar of walking upon hard substances, also to all persons whose business requires much walking or standing.

These soles are affording great relief to persons afflicted with rheumatism and consumptive complaints, chilblains, corns, cold and sweaty feet.

For warm and dry feet use the Patent Elastic Ventilating Inner Soles.

No. 13 Exchange Street, Boston, Oct. 15, 1867:—This may certify that I have used the Patent Elastic Ventilating Inner Soles, through the spring and summer past, and have found them to be the best contrivance for keeping the feet dry and comfortable, that I have ever used, and for any one having corns or tender feet, the best article ever invented. CHARLES K. DARLING, Stationer.

Patent Elastic Ventilating Soles—If you wish a comfortable article for your feet, a real luxury in cold weather, obtain a pair of the Patent Elastic Ventilating Inner Soles. Having used these soles the past winter, we can safely recommend them as tending not only to promote the comfort of the feet, and ease in walking, but also the equalization of the temperature of the feet, which renders them almost invaluable.—[Boston Traveler, Oct. 1867.

Price, per pair, **$1.** By mail, postage paid, **$1.25.** For sale by PATRICK KELLY, No. 327 Bush street, San Francisco. 3v1tf

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Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government license and reverse laws as well as other new and imperative regulations. These disrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. THE MINING AND SCIENTIFIC PRESS PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

Metallurgical Statistics.

We are informed by the managers of the Columbia College School of Mines, that it is proposed to establish in connection with their metallurgical department, a Bureau of Statistics, relating to the working of different ores in this country, similar to the Bureau of Mineral Statistics connected with the Government's School of Mines in London, the following circular, relating to the manufacture of cast iron, being the first of a series:

NEW YORK, Dec. 8th, 1868.

Dear Sir:—The School of Mines is engaged in collecting statistics of the blast furnaces of this country, with a view of having, in the city of New York, some place where reliable information can be had with regard to the working of iron in this country.

These statistics will be used to establish general principles, which will be announced in the Lectures on Metallurgy. The details of your own furnaces will be considered confidential, and will not be communicated if you desire it.

It is quite important to know the general form of the furnace, whether it is egg-shaped, the curve being continuous or whether it is made up of straight lines. The practice in this respect is very different, in different districts. You will greatly oblige me if you will give a sketch of your furnace and also fill up the following table and transmit it to the School of Mines.

Yours, respectfully,

THOS. EGLESTON, JR.

Prof. of Mineralogy and Metallurgy.

Name of the works; town; county; State; proprietors; number of furnaces: total hight; hight of bosh; hight of the hearth; hight of the tuyeres; diameter of the throat; diameter of the bosh; diameter at the tuyres; number of tuyeres; diameter of tuyeres; hot or cold blast; temperature of the blast; pressure of the blast; kind of ore; yield of the ore; kind of iron—white, gray, or mottled; kind of fuel; quantity of fuel per ton of cast iron; production of each furnace, in tons of 2,240 lbs. by 24 hours.

The idea is worthy of every encouragement.

NEW SUTRO TUNNEL BILL.—This enterprise has been brought before Congress this session by Mr. Ashley, in the shape of "A bill to aid in ascertaining the value of public lands containing mineral lodes, and for the endowment of a National School of Mining." The bill is a modification of the one which last session received the sanction of the House Committee on Mines and Mining, being changed so as to meet the supposed present temper of Congress in relation to subsidies. It is now proposed that the Government, instead of issuing its own bonds in favor of the enterprise, shall guarantee the payment of the principal and interest of bonds to be issued by a Tunnel Company (to be hereafter constituted, the assignee of Mr. Sutro and his associates,) such guarantee to be exteuded to the amount of $5,000,000 principal and 6 per cent. interest for the term of thirty years, when the bonds are to be payable in United States currency.

ABATING.—The small pox is rapidly on the decrease in San Francisco, and we now hear less about it here in this city than our friends do in the interior. Parties in the country properly vaccinated, need have no reluctance about coming to this city. Without that precaution they are unsafe in any portion of the country.

LOWER CALIFORNIA.—Petermann's "Mitheilungen" in Gotha publishes a map of Lower California, from the explorations made by J. Ross Browne, Gabb and Loehr. An account of the journey, with interesting geological details, from the pen of Herr Gabb, is added.

WORK on the Western Pacific Railroad is progressing at such a rate as to effect its completion by the time that the junction between the Union and Central is made at Salt Lake—about April 1st, according to calculations.

THE VELOCIPEDE fancy manifested itself during the week in fresh orders for French two-wheeled fore-and-aft machines, at Palmer, Knox & Co's Foundry; and in numerously attended practicings at the Mechanics' Pavilion.

CHINESE SULPHURETS.—A sample of ore sent down from the Pingtu Digging, has been analyzed by a gentleman at Hongkong, and found to be a rich oxide of antimony associated with sulphurets of iron, zinc, and lead. The proportion of silver is too small to be worth extracting. The ore is, nevertheless, valuable.

LARGE STEAM ROLLER.—A fifteen-ton steam roller is ordered for the New York Central Park. It is to be made by Aveling & Porter, of Rochester, who have already filled a similar order from Philadelphia.

THE *California Medical Gazette* contains a paper by Dr. Shorb on the Miasmatic Diseases of California; an article on the Small pox Epidemic, by Dr. Morse; and editorials on "Our Great Mortality," and "Hospital Investigations."

Read and Subscribe.

With the advantages of past experience, the increased patronage and friendly support of the intelligent and progressive readers of the Pacific States and Territories, we are confident in asserting that the new volume of the MINING AND SCIENTIFIC PRESS, commencing with 1869, shall be in all respects superior to its predecessors. Of the past, we will give the written

OPINION OF OTHERS:

EVERY miner in the community should subscribe for the Mining and Scientific Press.—*Grass Valley Union.*

MINING AND SCIENTIFIC PRESS.—This excellent scientific journal has entered upon its eighteenth volume.—*Chico Courant, Jan. 15th.*

THE *Mining and Scientific Press* should have an extensive circulation in every mining community on the Coast.—*Placer Herald, Dec. 19.*

THE MINING AND SCIENTIFIC PRESS has become almost indispensable to the miner and machinist, and is well deserving of the patronage which we are pleased to learn it receives.—*Mariposa Mail, Jan. 10th.*

THE *Mining and Scientific Press* is one of the best papers of the kind ever published, and to California miners, especially, it has become an almost indispensable requisite for the successful prosecution of their calling.—*Nevada Gazette,*

THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth volume. It has donned a new style of hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger. July 18th.*

THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

TO MINERS.—William H. Murray, traveling agent for the Mining and Scientific Press, published by Dewey & Co., of San Francisco, is in town solicitiug subscriptions for that paper. To the intelligent miner, a paper like the *Press* is particularly valuable, keeping him posted on the latest discoveries in reduction of ores, new machinery, etc.—*Grass Valley National.*

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books. *Nevada Gazette.*

WE CONSIDER THE MINING AND SCIENTIFIC PRESS the most valuable mining and mechanical newspaper issued in the United States. Dewey & Co., publishers, are also solicitors of foreign and American patents and conduct patent cases of every kind. We guarantee that all business confided to them will be carefully attended to, and we further believe that every miner, mechanic, and scientific man should have their valuable paper.—*Auburn Stars and Stripes.*

MINING AND SCIENTIFIC PRESS.—We look upon this paper as one of our most valuable exchanges, in fact it deservedly stands at the head of all publications embracing mining, scientific and mechanical subjects, and contains much miscellaneous matter of interest, and is a gem of neatness. The PRESS is published by Dewey & Co., San Francisco, and at its present low price of five dollars per annum, should be patronized by every one, but more especially by miners, mechanics and inventors who wish to pursue their avocations with intelligence and economy.—*Tidal Wave, Idaho.*

A USEFUL PUBLICATION.—The MINING AND SCIENTIFIC PRESS, published at San Francisco by Dewey & Co., is a publication valuable to all classes and indispensable to miners and inventors—the patents for nearly all California inventions having been secured through the Patent Agency of the proprietors of that paper, and the inventions themselves brought into notice through its columns. We are glad to learn, from Mr. Wm. H. Murray, the traveling agent of the paper, who dropped in upon us Monday evening, that its merits are so well appreciated; and we unhesitatingly commend both the paper and its gentlemanly agent to the confidence and patronage of scientific and practical men of all classes and every occupation.—*Solano Herald.*

THE MINING AND SCIENTIFIC PRESS, of this city, has done us the honor to notice us in their columns, and we feel in duty bound to acknowledge the compliment.

It were fruitless for us to say anything in praise of the MINING AND SCIENTIFIC PRESS. * * * It speaks for itself wherever it goes. Its editors are men of intelligence, ability and honor.

We have had frequent occasion to have business relations with the patent agency connected with this establishment, and have had nothing left to desire in regard to it. Fidelity, promptness and courtesy, soon arranged everything for us to our complete satisfaction. Having had frequent delays at Washington while in that city, we have been surprised at the promptitude with which some of our friends obtained their patents through the agency of Messrs. Dewey & Co.—*S. F. Spiritual Light.*

SUBSCRIPTION TERMS, in advance, $5; six months, $3. Specimen Nos. of the paper and Circulars of Information for Inventors, sent free on application.

DEWEY & CO.,

Publishers, Patent Agents and Job Printers, No. 414 Clay st., below Sansome, San Francisco.

A. T. DEWEY. W. B. EWER.

WOONWAAN'S GARDENS.—Visit this favorite place of resort, and take a stroll around the grounds. There are innumerable novelties to be found here.

SPECTACLES.—Muller, 205 Montgomery street, is selling large quantities of his celebrated spectacles, which give universal satisfaction.

New Mining Advertisements.

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of January, 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty seventh day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the seventeenth day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. jan30

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of January, 1869, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 426 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth (5th) day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirtieth (30th) day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees

R. N VAN BAUNT, Secretary.

Office 426 Montgomery street, San Francisco. jan30

Mining Notices--Continued.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of January, 1869, an assessment of two dollars ($2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary

Any stock upon which said assessment shall remain unpaid on the fifteenth day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M RUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. jan16

North American Wood Preserving Company.

Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the fifteenth day of January, 1869, an assessment of one ($1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 430 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. Byorder of the Board of Directors.

WM. B. LAKE, Secretary.

Office, 430 Montgomery street, San Francisco. jan16

Patrocina and Dolores Silver Mining Company, Cuazapares District, State of Chihuahua, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the ninth day of December, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
James Lang	125	5	$10 00
L H Perry	11	10	20 00
L H Perry	15	5	10 00
L H Perry	202	55	110 00
R Hussing	213	5	10 00
R Hussing	52	5	10 00
S S Emery	186	5	10 00
John Oonald	212	10	20 00
W H Ryan	90	15	30 00
F S Ellmaker	180	35	70 00
P J O'Connor	146	60	120 00
James Ooyle	192	5	10 00
Catherine Martin	215	5	10 00
E Whiting	199	10	20 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of December, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., auctioneers, No 426 Montgomery street, San Francisco, Cal., on Monday, the twenty-fifth day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. B. GIFFORD, Secretary.

Office, N. E. corner of Second and Howard streets, San Francisco. jan9

POSTPONEMENT.—The above sale is hereby postponed until Thursday, the fourth day of February, 1869, at the same hour and place. By order of the Board of Trustees.

jan40 C. B. GIFFORD, Secretary.

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. Shares.	Amount.
Curtis Palmer	148	10	$10 00
William Brown	14	5	5 00
William Brown	233	10	10 00
William Brown	233	10	10 00
William Brown	234	10	10 00
William Brown	35	10	10 00
William Brown	240	3	3 00
William Brown	276	25	25 00
William Brown	277	45	45 00
Brown & Kent	15	10	10 00
Abigail Brown	20	5	5 00
Abigail Brown	21	5	5 00
Abigail Brown	266	10	10 00
Daniel Davidson, endorsed to James Wilson	46	10	10 00
George Patterson	53	5	5 00
James S S Robinson	56	10	10 00
F M Ellis	66	1	1 00
H D Scott	70	55	55 00
John Samquet	158	15	15 00
B Curran	272	10	10 00
B Curran	not issued	10	10 00
John Bagnell	214	7	7 00
Matthew Davidson	77	12	12 00
Patrick Carroll	75	10	10 00
P M Wellin	224	5	5 00
Edward Campbell	181	10	10 00
Chas B Montague	120	25	25 00
A J Davis	127	10	10 00
Lott Mulcahy	187	5	5 00
Thomas Fay	158	5	5 00
David M Short	134	10	10 00
Chas Mayer	135	10	10 00
Benjamin C Levy	137	5	5 00
Lazard Godchaux	139	10	10 00
Lazard Godchaux	160	5	5 00
Lazard Godchaux	162	5	5 00
Lazard Godchaux	229	5	5 00
Lazard Godchaux	230	5	5 00
P Cunningham	156	5	5 00
P Cunningham	174	5	5 00
Michael English	152	25	25 00
Frank Mahon	155	25	25 00
Thos McCullough	159	10	10 00
Stephen McGillan	164	5	5 00
Stephen McGillan	165	5	5 00
P J McMahon	170	25	25 00
P J McMahon	183	25	25 00
Jas Barrett...not issued...bal	189	25	125 00
Elizabeth Curran	194	10	10 00
Elizabeth Curran	195	10	10 00
N C Briggs	209	10	10 00
F H Moore	210	20	20 00
C B Gregory	221	20	20 00
Henry Eno	212	20	20 00
Henry Eno	278	25	25 00
David Lovell	214	10	10 00
Jacob Marionstein	225	1	1 00
M G Shove	264	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Saturday, the twenty-third day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CURTIS PALMER, Secretary.

Office, No. 87 Stevenson street, between First and Second streets, San Francisco. dec24

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the sixth day of February, 1869, at the same hour and place. By order of the Board of Trustees.

jan30 CURTIS PALMER, Secretary.

Rattlesnake Mining Company, Brown's Valley, Yuba County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of December, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Agard, W B	18	44	$330 00
Agard, M F	19	100	750 00
Aeschlioni, H	5	6	45 00
Bradley, M	not issued	30	225 00
Bradley, A	not issued	5	37 50
Bubb, L H	not issued	25	187 50
Brown, A	6	20	150 00
Beausacq, A C G de	27	20	150 00
Cohn & Bro	not issued	10	75 00
Cavallier, J B E	3	10	75 00
Cavallier, J B E	25	91	682 50
Concelle, A	7	46	345 00
Ely, J	not issued	10	75 00
Findley, Thos	26	49	367 50
Fischer, W	9	45	337 50
Gray, C M	not issued	60	450 00
Hawley, W	not issued	39	292 50
Hawley, Mrs S	not issued	6	45 00
Huard, A N	1	210	1575 00
Huard, L R	2	20	15 00
Kelly, M J	13	20	150 00
Lawson, J F	not issued	49	367 50
Lamory, E	11	100	750 00
McAllis & Gordon	14	5	37 50
McAllis & Gordon	15	10	75 00
McAllis & Gordon	16	10	75 00
McAllis & Gordon	17	20	150 00
Mattat, M	4	20	150 00
Noel, A	12	20	150 00
Pinkham, W	not issued	10	75 00
Smith, J B	not issued	10	75 00
Vitte, J	not issued	5	37 50
Wessels, S C	not issued	10	75 00

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of December, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the eighth day of February, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LORSE, Secretary.

Office, 318 California street, up stairs, San Francisco. j23

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of November, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alpheus Bull	2	218	$109 00
E B. Mott, Jr	6	150	75 00
Geo Mohrel	10	10	5 00
Geo Mohrel	11	10	5 00
Geo Mohrel	12	10	5 00
Geo Mohrel	13	5	2 50
Geo Mohrel	14	5	2 50
Silas Carber	19	10	5 00
Jas P Wheeler	30	50	25 00
Jas P Wheeler	31	50	25 00
Jas P Wheeler	32	50	25 00
Jas P Wheeler	33	50	25 00
Jno Vail	34	20	10 00
L J Lum	37	20	10 00
I L Requa	38	50	25 00
I L Requa	39	50	25 00
I L Requa	40	50	25 00
I L Requa	41	50	25 00
J L Van Bokkelen	48	4	2 00
L A Booth	49	50	25 00
L A Booth	50	54	27 00
L A Booth	51	100	50 00
J Riggs		4	2 00
McFarland		16	8 00
Sarah Snyder		32	16 00
N M Baxter		20	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. C. Merrill & Co., auctioneers, No. 204 California street, San Francisco, California, on Saturday, the second day of January, 1869, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

ENOS TAYLOR, Secretary.

Office, No. 226 Clay street, San Francisco. dec19

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the thirtieth day of January, 1869, at the same hour and place. By order of the Board of Trustees.

jan9 ENOS TAYLOR, Secretary.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

Patent Rights for Sale.

For Preserving Timber from Decay

The cheapest method for curing Wood.

A. HAMAR'S PATENT.

WOOD PAVEMENT,

MILLER'S PATENT.

S. L. PEREIRA,

3v18 1m **204 Montgomery street, Room 4.**

ELLERY'S PATENT
India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,
Iron, Brick and Wooden Buildings,
SHIPS, STEAMBOATS, STAGES, CARS,
AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders puuctually attended to.

GEO. T. BROMLEY, Agent,
Battery street, corner Jackson,
24v17-3m San Francisco.

BLAKE'S QUARTZ BREAKER!
PRICES REDUCED!
MACHINES OF ALL SIZES FOR SALE
—BY—
WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

GLASGOW
Iron and Metal Importing Company
Nos. 25 and 27 Fremont street,
SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.
21v16-3m W. McCRINDLE, Manage.

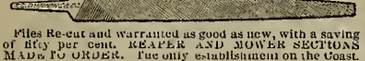
Removal.
NELSON & DOBLE,
AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,
Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of
Mill Picks, Sledges, Hammers, Picks,
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.
Have removed to **13 and 15 Fremont street,** near Market, San Francisco.
10v14qr

Notice to Miners,
Well-Borers and Water Companies.

M. PRAO IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. The manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,
8v13-1y Stove Store, No. 1 Clay street, below Davis.

PACIFIC FILE WORKS,
No. 53 Beale Street, bet. Market and Mission,
SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.
2v17-3m **T. G. DUNNING & CO**

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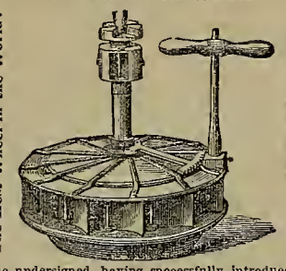
Patent for Sale.

The Best Wheel in the World!



Triumphant in every Test with all other Wheels!!

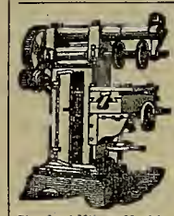
The undersigned, having successfully introduced the **Leffel American Double Turbine Water Wheel**

On this Coast, and owning the Patent for the whole Pacific Coast, viz: The States of California, Nevada and Oregon, and the Territories of Arizona, Washington, Idaho, and Western Montana, wishes now to dispose of the Patent, with stock of Wheels on hand, Patterns, etc., etc.

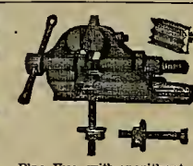
A Company organized and prepared properly for the construction of these Wheels, to supply this Coast and all tributary countries, could make the business immensely profitable.

My object in selling is to enable me to devote myself exclusively to my profession. A. MYERS.

P. S.—If not sold previous to February 15th, then I would enter into an arrangement to manufacture by paying royalty. Address Rev. A. MYERS, Portland Oregon.
26v17-1m



Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.
23v16-1y G. H. NOTT, Pres.

CALIFORNIA TOOL WORKS,
Blacksmith and Machine Shop,
HAS REMOVED
To 143 Beale St., bet. Mission and Howard,
SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Imported Tools, if too hard or soft, re tempered to give satisfaction. REAPER AND MOWING KNIVES; complete sections always on hand, or will be made at the shortest notice. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted. Prices reasonable.
21v17-qy **J. WEICHHART, Proprietor.**

PATENT
Boiler Scraper and Tube-Cleaner.

IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom bubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the flour hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

Portable Engines.

The Swamscot Co's (warranted equal to any manufactured, may be seen in use in this city), PORTABLE and STATIONARY STEAM FIRE ENGINES, STEAM PUMPS and ROTARY PUMPS, and WOOD-WORKING MACHINERY of every description, at Eastern prices. Address W. O. M. BERRY & CO., **511** California street, San Francisco.
26v17-3m

The Chili Exposition.

THE UNDERSIGNED WOULD CALL THE ATTENTION of the manufacturers of California to the National Exposition to be held during the coming spring in Valparaiso, Chili, next to California, is the most important country on the Western Coast of America. And this Exposition cannot fail to create a demand for our staple manufactures, if they are well represented. The writer has resided for some years in Chili, and is familiar with its people, business and languages; is a practical mechanic, and proposing to visit the Exposition, offers to take charge of machinery or other material that parties may wish to send thither, and pledges himself faithfully to bring before the public of Chili their respective merits. He can be seen daily, at his office, No. 49 Montgomery Block. Prompt action is necessary.

DAVID R. SMITH,
Civil and Mechanical Engineer.

REFERENCES—Hanscom & Co. (Etna Iron Works); A. S. Hallidie (President Mechanics' Institute); Lynch, & Andrade.

San Francisco, Novemb r 21st, 1868 34v17-tf

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL.
BARTLING & KIMBALL,
BOOKBINDERS,
Paper Rulers and Blank Book Manufacturers.
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15v12-3m SAN FRANCISCO.

JOHN DANIEL,
(SUCCESSOR TO O. GOSH)
MARBLE WORKS,
No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Pimbers' Slabs
Etc., On hand and Manufactured to order.
☞ Ooods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

Palmer's Patent
ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.
JARVIS JEWETT, AGENT.
218 Montgomery Street, San Francisco. 10v8-1m

J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,
(Over W. T. Garratt's Brass Foundry,
S. E. Corner of Mission and Fremont sts.,
6v14tf SAN FRANCISCO.

J. F. PAGES,
SEAL ENGRAVER,
AND LETTER CUTTER,
Brass and Steel Stamps and Dies, **522** Montgomery street, San Francisco. Orders by express promptly attended to.
6v16

DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,
Manufacturers of all kinds of
Desks and Office Furniture,
717 Market street, near Third.

Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.
18v17qr

LOOK TO YOUR ROOFS!
Pacific Concrete Company,
No. 622 Clay street,
Factory on Kingsstreet, between Third and Fourth street.

New roofs covered and leaky roofs repaired, in thorough and substantial manner, promptly and at very reasonable rates. Proprietors of Eagan's Patent. 18v17tf

Novelty and Usefulness Combined.
Wilson's Prepared Solder
Dispenses with the Soldering Iron.

It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pin dish to a wash boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire.

Agency for the Pacific Coast, Room No. 10, No. 423 Washington street, San Francisco. AGENTS WANTED.
Address P. O. box 17. 23v17tf

S. F. & S. J. R. R.

E. R. WATERMAN. W. H. TOBEY.
WM. H. TOBEY & CO.,
RAILROAD ADVERTISING AGENCY,
641 Market street,
Between Second and Third streets (up stairs).

FRAMES, CARDS, CIRCULARS, POSTERS,
Etc., put up in all the Cars and Depots of the San Francisco and San Jose Railroad.
Advertise your Business for the Country Trade
4v18tf

Our Patent Agency.

THE PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this Coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this Coast.

CHLORINE IN GOLD REFINING.—The following is a new process by F. B. Miller, F. C. S., and Assayer in the Sydney branch of the Royal Mint. It is considered a noteworthy improvement, and will probably soon be adopted by the English assayers:

A French clay crucible is saturated with borax by immersing it in a hot saturated solution, and drying. The gold is then melted in this crucible with a little borax, and a stream of chlorine gas is allowed to pass through it by means of a clay tube (a tobacco-pipe stem was found suitable). The chlorine generator is fitted with a safety-tube seven feet long, and is connected with the clay tube by a caoutchouc tube. In a few hours the whole of the silver is converted into chloride, which floats on the gold. The borax prevents the absorption of the chloride by the crucible, and also its volatilization, except in very minute quantities. As soon as the gold has become solid, the still liquid chloride of silver is poured off, and the gold is now found to have a fineness of say 993 parts in 1,000. The apparent loss of gold is very little greater than is found in ordinary gold melting—being 2·9 parts in 10,000—whereas in the ordinary process it is 2. A small sample of the gold is removed, from time to time during the operation, by means of a piece of tobacco-pipe used as a pipette. This is rapidly assayed approximately, and thus the progress of the operation is judged of.

The fused chloride of silver obtained as a slab after the operation, is reduced by placing it between two plates of wrought iron in a bath of dilute sulphuric acid. The spongy silver so obtained contains gold, which may be separated by nitric acid. The nitrate of silver can of course be precipitated as chloride, and subsequently reduced. The gold appears to be present in the chloride of silver in the form of a double chloride, and the author has succeeded in separating it directly from this combination by precipitation by metallic silver.

LET NO MAN ASK FOR LEISURE.—The most fallacious ideas prevail respecting leisure. People are always saying to themselves: "I would do this, and I would do that, if I had leisure." Now there is no condition in which the chance of doing good is less than in the condition of leisure. The man fully employed may be able to gratify his good disposition by improving himself or his neighbors, or serving the public in some useful way; but the man who has all the time to dispose of as he pleases, has but a poor chance indeed of doing so. To do, increases the capacity for doing; and it is far less difficult for a man who is in a habitual course of exertion, to exert himself a little more for an extra purpose, than for the man who does little or nothing to put himself into motion for the same end. There is a reluctance in all things to be set agoing; but when that is got over, then everything goes sweetly enough. Just so with the idle man. In losing the habit, he loses the power of doing. But a man who is busy about some regular employment for a proper length of time every day, can very easily be something else during the remaining hours; indeed the recreation of a weary man is apt to be busier than the perpetual leisure of the idle. As he walks through the world, his hands hanging unmuffled and ready by his side, and he can sometimes do more by a single touch in passing, than a vacant man is likely to do in twelve months. Let no man cry for leisure in order to do anything. Let him rather pray that he may never have leisure. If he really wishes to do any good thing, he will always find time for it, by properly arranging his other employment.—*New York Ledger.*

OREGON LIME CEMENT.—Excellent specimens of lime cement, iron ore and stone coal are obtained from quarries on Butte Creek, Clackamas County, about twelve miles from Belpassi; within a radius of half a mile, easy of access, with a good road leading to within a few rods of the locality Mr. Frank Cooper sold last summer 1,500 barrels of cement made at this quarry; and a large brick building was erected in Silverton, using this material. The lime rock seems to be composed entirely of shell, and is said to produce an excellent cement that sets quickly, and will withstand long exposure.

QUARTZ MILLS AND DITCHES IN OREGON. There are in Oregon 21 quartz mills, supplied with 140 stamps, and a large number of arastras, the cost of the whole having been about $160,000. The extent of water-ditching reaches 165 miles—cost $275,000. About one-half of the quartz mills in that State are driven by water, being a larger proportion than in California or on any other portion of the Pacific coast.

PRACTICAL AND SCIENTIFIC.—A science is nothing more nor less than a general rule for obtaining desired information, and it is evident that the person who possesses facts in the greatest number and variety is in the best position to invent means of obtaining his information. In mechanical and civil engineering, men are often called upon to decide upon the strength, or what is equivalent thereto, the dimensions necessary to give to a certain piece in a machine or structure, in order that it may properly perform its duty. If there has been no machine of a similar character built previously, the dimensions must be either guessed at or calculated. The scientific engineer is able to do the latter. Supposing the parts whose dimensions are required to be a rod or bolt, he would first calculate the strain which would come on the bolt; he would then decide under what amount of strain the material of which his bolt is to be made would be safe, and by means of these two quantities it would be easy to determine the proper size of his bolt. This is a very simple case, but the more difficult ones are nothing more than a combination of simple cases.

It is hard to draw a line between the practical and the scientific man. Each of them uses the knowledge and facts at his command in attaining the ends which he desires. One great difference between the practical and scientific man, lies in the ability of the latter to take new steps and perform operations which are entirely new; whereas the former is, as a rule, confined in his practice to repeating the operations of others, or in simply making a slight alteration.—*American Artisan.*

NEW USES FOR MICA.—M. Puscher lately drew the attention of the Industrial Society of Nuremberg to the Siberian mica, which occurs in very fine plates, and indicated some new purposes to which it could be applied. When the thin plates of mica are cleaned with concentrated sulphuric acid, and silvered in the same way as glass, they take a luster similar to that of silver, and, being pliable, they can be employed in the covering of various ornaments. By heating the thin plates, and afterwards exposing them for a very short time in a muffle heated to bright redness, an aspect of matted silver is given. It is necessary to avoid heating the mica too long or too powerfully, since in either case a yellow shade is communicated, as well as great brittleness. The silvery substance formed is distinguished from metals by the property of resisting nearly all reagents; it is not in the least altered by sulphureted combinations, by the sun, water, air, concentrated acids or alkalies.

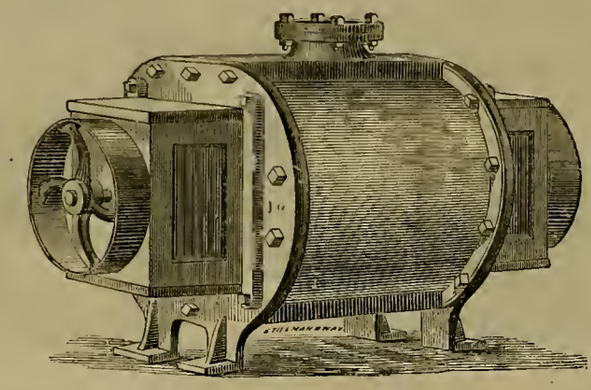
THE FUTURE CITY OF PUGET SOUND, at which the railroad from Columbia river will terminate, has not yet been located. Ben. Holladay proposes to build this road, and already there are a number of engineers surveying a route. The whole distance from the Columbia river to Port Discovery is less than two degrees of latitude, and the country is eminently calculated for railroad purposes. The greatest maximum hight is but 200 feet, and the greatest maximum grade not over forty feet to the mile—no tunneling or deep cutting—and the timber that will have to be cleared to make a roadway will more than suffice to bridge over ravines or streams, or make tressle-work or piling to cross morasses.

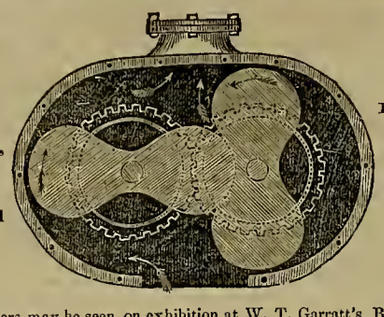
SIX AND A QUARTER MILES.—The Whitworth nine-inch gun, by which the unprecedented range of 10,300 yards was obtained at Shoeburyness on the 20th ult., was fired again the following day, when it beat even its previous performance, and with 33 degrees 5 minutes elevation, and a 50-lb charge, threw a 350-lb shell to 11,127 yards, first graze, being about 1,000 yards farther than ever iron mass was hurled by any other gun.—*London Artizan, Dec.* 1.

CALIFORNIA
BUSINESS UNIVERSITY
204 Montgomery Street.
Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
17v17 qy1p E. P. HEALD, San Francisco.

Pacific Chemical Works.
SULPHURIC ETHER.
SPIRITS OF NITRE.
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
FALKENAU & HANKS.
Office and Laboratory, Sixteenth street, between Folsom and Harrison.
LOUIS FALKENAU, State Assayer.
☞Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.
Awarded the First Premium at the Paris Exposition.





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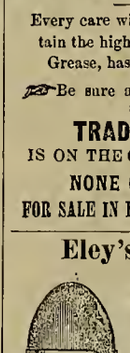

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INTRODUCTION OF EASTERN AND EUROPEAN INVENTIONS.—This is a constant business, offering,—and in frequent cases substantially awarding, as most of us have had occasion to witness,—great prizes to the ingenious, who are at the same time thonghtful and well informed enough regarding the wants and the inevitable developments of the coast to exercise a correct judgment in the premises. Such an invention is the Douglas patent dry brick-making machine, which has just been brought here by Mr. S. L. Pereira, of 204 Montgomery street, and which we hope to see at work shortly, and to be able to describe more fully. A new railroad buffer spring as a substitute for rubber, to be seen at the same place, is an entirely novel method of taking advantage of the elasticity of iron, consisting in placing over each other a number of cone-shaped rings, in all admitting of a spring of about two inches. The Miller pavement (resembling the Perry); a patent oiler; and a variety of Bessemer steel rails, and house props and beams, products of the French iron smelting and manufacturing establishment of Petin, Gaudet & Co., of which Mr. P. is the agent, may also be seen. The Hamar patent timber curing process, for the preservation of wood from decay and from marine insects, is also being introduced, and is a simple ont-door process, whereby sulphate of copper or of iron is made to take the place of the sap. An elevation of the tub or barrel containing the solution, to twenty-five or thirty feet, gives pressure enough to inject the solution into the pores, while the sap is being forced out at the opposite end of the stick.

NEW VELOCIPEDES.—There has just been completed, at the Ætna Iron Works, a velocipede of novel construction. The wheels, of which there are three, consist of light hoops similar to the felloes an d tires of ordinary wheels, in the centers of which the axles are suspeuded by light eteel wires (No. 16) instead of wooden spokes. By this means great strength, lightness and elasticity are aimed at. The driving wheels are eight feet four inches in diameter, and upon the axle rest nearly the whole weight of the framing, and of the operators. The framing is of wood, braced with steel wires. The power is communicated by a peculiar treadle arrangement, upon which the operator stands erect, and not only exerts a force equal to his weight, but when he desires to do so he can add to this force another exactly equal to what he could lift under the most advantageous circumstances. The result of this arrangement in speed must be a maximum. The machine is completely under control, and can be instantly stopped, started, or reversed, by setting the guide wheel at the proper angle. The whole machine can be driven around in either direction in so small a circle that the radius of the track of the inner wheel will be less than twelve inches. The inventor and constructor is David R. Smith, Civil and Mechanical Engineer.

Those who visited the Pavilion at the Pavilion at the last Mechanics' Fair (and who did not?) will remember that the fleet of miniature ships that sailed so beautifully around the fountain was also an invention of Mr. Smith, suggested by observing that a current of air was produced by the falling water. The application of sails to the rotary boat at Woodward's Gardens, is on the same principle.

SOCIAL VOICES, the organ of the literary society of Dr. Stone's church, edited by Chas. J. King, has just entered upon its third volume. Like the pleasant literary reunions of which it is a representative, refined social life, and a great deal more of literary talent than one would expect to find under such modest pretensions, characterize the substance in hand, as well as the manner of treating it.

THE Hafenegger powder trial last Saturday was postponed on accouut of the extraordinarily bad weather.

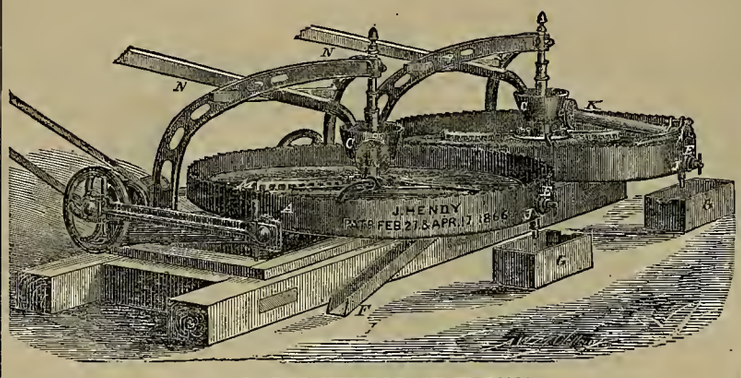
PREMIUM FOR BEST CONCENTRATOR

AWARDED BY THE

MECHANICS' INSTITUTE, 1868,

ALSO AT THE STATE FAIR FOR 1868,

To J. HENDY.



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Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.

Office at Union Iron Works.

13v17tf

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SAN FRANCISCO, SATURDAY, FEBRUARY 6, 1869.

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ENGINEERING MISCELLANY.—Railroad Building; Telegraph Building in Mexico; Water Supply at Vallejo; Water at White Pine; Blasting the Coral Reefs at Midway Island; Engineering Data of the Greville and Virginia City R. R.

MINING SUMMARY.—Comprising late intelligence from the various counties and districts in California, British Columbia, Colorado, Idaho, Montana, Nevada, N. Mexico, Oregon, Wyoming.

San Francisco Mining Shareholders' Directory.
San Francisco Metal Market.
San Francisco Market Rates.
Notices to Correspondents.
Stock Prices—Bid and Asked.
New Incorporations.

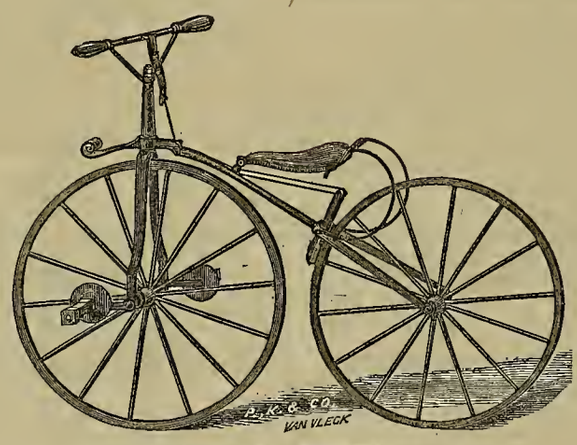
THE GEOGRAPHY OF EASTERN NEVADA, though still imperfectly laid down, is more fully given in Mr. Gibbes' map, (published by Warren Holt, No. 411 Kearny street, to whom we are indebted for a copy) than in any other publication, being on twice as large a scale (12 miles to the inch) as Bancroft's large map of the Pacific States, and representing the overland and other road stations, and the mountains with a degree of exactness that will enable a person who has traveled over the latter easily to identify the country. The mountains, with their intervening valleys, as far east as the boundary of Utah, and including all along the Pacific Railroad from the meridian of Winnemucca on, are pretty well represented in general aggregates that can be depended upon as at least approximately correct. So far as the U. S. Land Surveys have extended, the results of which are on record at the U. S. Surveyor General's office at Virginia City,—embracing a considerable amount of work done by Epler and others—and along the Ives' Pacific Railroad surveys, mapped and accessible at the office of Mr. Montague in Sacramento, the present map, as it probably embodies the same, may be taken as reliable; the rest of the topography having been jotted in from rude triangulations. or by eye measurements, which are in most cases not far out of the way.

WATER WHEELS.—We are told by one who ought to know, that our recent remarks, to the effect that the Jonval turbine wheel furnishes the highest percentage of absolute power, but was not as cheap in proportion to the power furnished as certain others,—are by implication somewhat unfair, in omitting to state that the improvements on the old Jonval wheel, such as the Bodine Jonval, represented on this coast by Fuller & Co., of No. 109 Montgomery street, have entirely altered those relations; a proposition that we are certainly willing to accede to.

PETRIFACTIONS abound at Rock Creek, on the Union Pacific Railroad, east of the hight of land. The report is that they are "snakes of all sizes, some straightened out, others coiled up; and shells of every possible kind—oysters, clam, mussel, conch, etc."

The Velocipede.

A visitor to the Mechanics' Institute Pavilion on Post street, will find its "magnificent distances," and its superb dancing floor, enlivened by the gambols of a score or so of velocipedists, on machines generally of the character represented in the cut. These appear to be the most popular, on account of the airy appearance of ghostly nothingness, which seems to be all that there is to support the rider, as he passes along at a speed which admits of little more than the circumference of his wheels, and the rider himself, with his horizontal coat tails, from being individualized. It is by means of the curved springs supporting the saddle, that this appearance of lightness is obtained in the "California velocipede," as it is called by the manufacturers, Messrs. Palmer, Knox & Co., of the Golden State Foundry, who have introduced several useful improvements on the French machine. A large number of velocipedes of superior quality and lightness have already been manufactured, and orders are being filled from many points in the interior. At Caseholt's, and at Kimball's carriage factories, velocipedes have also been manufactured; and machines of peculiar pattern are being made at the Fulton Foundry and at other places, privately.



THE CALIFORNIA VELOCIPEDE.

So simple is the machine, in all its parts, that no description is required to help out the accompanying illustration, except in regard to the brake, which regulates the speed in running down hill. This is seen underneath the saddle; from its upper end a cord connects with the steering handles, the revolving of which draws the cord, and presses the lower part of the brake upon the hind wheel.

But the manner of operating the velocipede is not so easily described, nor very easily acquired. "*Figaro*" does justice to it in the following:

The first feeling on bestriding the bicycle, and resting one's weight upon the saddle, is that of utter inability to maintain the necessary equilibrium. The tendency to topple over appears to be insurmountable by any skill which the learner can hope to attain. It is difficult for him to see how any vehicles having but two wheels, one directly in advance of the other, can be made to stand or run upright, unless held so by some extraneous means. A little reflection, however, will remind him that any kind of a disk—as a wheel or ring—if propelled along the ground, will maintain its erect position so long as it keeps in motion; and that the same principle of centrifugal force which bears up the disk and keeps the spinning-top erect, maintains the equilibrium of the velocipede while in motion. The handle of the machine is to be grasped firmly in the hands of the rider, and when skillfully manipulated it acts in a certain sense as a balance pole; the handle guides the fore wheel in any direction, while a quick turn toward the side to which the learner feels himself falling, will restore the balance, until at length it can be maintained with but little effort.

A sedate editor of one of the morning dailies reports his experiences at the Pavilion as follows:

We were finally persuaded to visit the ante-room, or stable, where a dozen or more velocipedes stood chained up; and, while viewing them, the argument of the necessity of our learning to ride was again forced upon us. A safe ride of a few yards, with toes touching the ground, together with the passing of a crowd of laughing velocipedestrians, inspired us with confidence that all that was required was to place the feet on the cranks on either side of the hub of the front wheel, and join the merry throng moving around the hall with such ease and grace. No sooner contemplated than accomplished. The floor of the hall in the direction we were going, was of a down grade, and soon we were gliding along at a rapid rate. We looked forward to see if there was any obstacle to be passed. That look fixed us. The treacherous front wheel of the machine turned a quarter round, and, not being constructed to go in that manner, the velocipede stopped and laid down. We continued on for a short distance, until at last the friction of our nose upon the floor brought us to a dead halt. Our new leaver continued on several yards further, when, after turning several short corners it too came to a halt. We arose seriously, and, after rubbing our shins and feeling the amount of damage caused by using our nose as a brake, we calmly viewed the situation. Things wore the aspect of a smash up. A coarse laugh from a crowd of spectators who had gathered around our friends, grated harshly upon our ears.

The velocipede can only be used to advantage under the favorable conditions of smooth and level roads. The American *Artisan* says:

The speed attained by the swifter kind of French velocipedes averages from twelve to thirteen miles an hour; adepts find no difficulty whatever in accomplishing fully fifty miles within five hours without once alighting from their vehicles. A couple of amateurs making a tour through a part of France, challenged each other as to which could perform the greatest distance within four-and-twenty hours. One gave in after having accomplished eighty-seven miles; the other went on an additional thirty-six miles, making 123 miles in all. On the 21st of September last, a party of nine quitted Rouen early in the morning, mounted on velocipedes, and arrived in Paris in time for dinner the same evening, having performed the distance of eighty-five miles, exclusive of stoppages, at a rate of speed averaging ten an eleven miles an hour. It should be understood that, in impelling a velocipede, the limbs are not constantly in motion; as on level ground, when the impetus is at an average rate, or when the machine is descending an incline, the feet may be removed from the pedals, and the legs be placed on the bar fixed in front of the velocipede for this purpose. A slight impulsion given to the vehicle, from time to time, suffices to keep up the speed. The ascent of an incline greater than one foot in twenty-five, is considered difficult, if not impracticable. When the rider, therefore, encounters a hill of more than the average steepness, he has to dismount and lead his velocipede with his hand, which, we are told, he can do with almost the same ease as he can carry an ordinary walking-stick.

We are informed that Messrs. Palmer, Knox & Co. have found it necessary repeatedly to increase their working force in the velocipede department, in order to meet the demands made upon them for the article.

COAL BEDS AT SAN DIEGO.—Interest is being revived in the old Mormon coal shaft at Point Loma, in San Diego harbor, the *Union* of Jan. 23d asserting that extensive beds of good anthracite coal are found underneath the harbor. In 1856, the San Diego Coal Company bored down through strata as follows: Blue slate, nineteen feet; freestone, two feet; slate, one foot; coal, six inches; slate, three feet six inches; coal, six inches; slate, sixteen feet; grey rock, eighteen inches; slate, two feet; and so on to a depth of less than one hundred feet, when a stratum of coal was struck four feet six inches in thickness. This is probably not genuine anthracite, but tertiary brown coal, such as is found everywhere along the coast in small seams.

TAXATION OF MINES IN NEVADA.—A bill has been introduced by Senator Mulleu in the Nevada Legislature, providing for taxation of the net proceeds of the mines, in lieu of the present method by which the value is assessed after making a deduction of so many dollars per ton as cost of extraction and reduction. The present statute has been regarded by the owners of mines in Eastern Nevada as unjust, and as imposing a disproportionate burden upon them; while the Comstock lode people are opposed to the change, as it is likely to increase the assessment upon the ores taken from that lode.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Manufacturing at Santa Cruz.

THE PAPER MILL.

Eds. Press:—I find the Santa Cruz paper mill going, and apparently doing a fine business. It is located at San Lorenzo, three miles from Santa Cruz. Through the kindness of the foreman, Mr. P. Morsey, I got an insight into the method of making brown wrapping paper. I am told that there is more money in that than there will be in making finer qualities of paper for some time to come. First, you see a large shed containing straw, which is taken into the works on a truck, and put into two large vats eighteen feet in diameter and nine feet deep. They put in lime also, and steam it for twenty-four hours; then the straw is taken out and put into other vats, where it undergoes further processes of being worked into pulp for the rollers.

They have seven hands employed, and turn out 100 reams of brown paper in 24 hours, working only in the day time at present, but they intend to run night and day shortly. The machinery is run by turbine water power; but they have a large boiler there for making steam. John Sime, the banker in San Francisco, is the owner.

FUSE FACTORY.

I am indebted to Mr. Richard Uren, one of the proprietors of the fuse factory at Santa Cruz for the following facts: Mr. Uren came to this State from Michigan, having had some experience there in the same business. The experiment proving successful, he has gone to an expense of $30,000 in putting up new works, to be run also by water power, on Zayante creek, seven miles from Santa Cruz; which are nearly finished, and will be in operation in the spring. These will employ seven men and turn out fifty million feet of fuse per year. Mr. Uren has worked at mining, and therefore understands perfectly what kind of an article is required. All his machinery comes from the States, the half of it having already arrived. I understand that the mines at Grass Valley and Virginia City were formerly chiefly supplied with fuse by Mr. Uren, which brought him to the conclusion it would pay well to manufacture the article in this country; and his success justifies the action he has taken. This is a splendid place for mills and for work of this kind. There is plenty of water and wood, and I understand that the land is very cheap.

THE CALIFORNIA POWDER WORKS

are located about four miles up the creek, and are very large. The first place I got into was the refining room for the nitre or saltpeter, where they have four large vats, two for dissolving, and two for crystallizing, besides two tubs for washing. The second room is for drying and grinding. The third is the charcoal house, on each side of which there is a long furnace; the same being connected with ten retorts on the one side, and eight on the other, which are all three feet in diameter and four feet long. The fire passes around the outside of these retorts, which contain the wood that is to be charred, and so brought into a suitable condition to serve as one of the ingredients of powder. They burn four cords of wood in them per day; when properly burned they take it out and put it into coolers, of which there are thirty-six; allowing it to remain there for twenty-four hours. The fourth room is for pulverizing, and contains two large pulverizers. The fifth room is for mixing the charcoal and sulphur.

There is another room, where five pairs of big wheels are engaged in grinding up the powder after it has been mixed with saltpetre. It is here where the danger of explosion exists, unless the work is very carefully watched by the men. Six and a half kegs are ground at a time, and for about two and a half hours. There is, besides all these, a pressing room, where fifty large cakes, equal to forty kegs of powder, are pressed at once. These are then taken to another room and broken up into pieces and dried at a temperature of 130 degrees.

All these rooms are from 30 to 175 feet apart, so that if one should explode or burn up, the others would not be damaged.

They are turning out sporting, rifle, cannon, blasting, and fuse powder. Twenty-five men are employed in making powder, and twenty-five more in making kegs, and filling them. With this force they turn out with the aid of machinery for the purpose, 400 redwood kegs per day. Much care must be taken in making the kegs, as they have to be very tight and well made, for safety from fire as well as for protection from water. The number of kegs filled with powder that are turned out daily, is 390.

A tunnel 1,160 feet in length has been cut through the mountain between the works and the river, from which they have thus secured a fall of thirty-five to fifty feet.

On entering the works, the visitor is required to take a brush and wet his boots in order to get off all the sand and dirt that may adhere to them. A place is planked all around the yard to walk on. It is only recently that operations have been resumed here, after a repairing spell of about six weeks.

W. H. M.

Santa Cruz, Jan. 26, 1869.

[Written for the Mining and Scientific Press.]

Idaho Developments.

MINING ITEMS.

Editors Press:—The news from the mining districts is good for this season of the year. Owyhee is proving the wealth of her renowned lodes. At Yuba, Mr. Defrees cleaned up, after running 130 tons of ore from his Leonora lode, and is reported by men working in the mill, to have cleaned up about $9,000. He has only a battery, and neither pans, concentrators, nor separators; and the mill is small and inferior at that.

SNOW AND CLIMATE.

Yuba has not so snowy a climate, apparently, as Rocky Bar, the county seat of Alturas County, from which it is distant about eighteen miles. At the "Bar" there is four feet, on the South Boise River, three feet, and on Camas Prairie, about two feet of snow at present. After leaving the hills there is not any snow worth noticing; perhaps from one-half to one inch, and spotted,—a few spots being frozen into ice. The days have been thus far clear, and almost cloudless, but at night the thermometer goes down to + 16 or + 12 of Fahrenheit.

THE WHITE PINE FEVER

is prevalent, but the epidemic is much held in check by the cold weather, as the very thought of several days' traveling by stage in such weather has a wholsome effect; and most say, "wait awhile."

But why so many thousands should rush from here to White Pine is not plain. This is a fine, rich gold and silver territory, several hundred or thousand feet less in altitude, with a correspondingly milder climate, and hundreds of lodes in a greater or less state of development, rich enough for any reasonable man.

BOISE VALLEY WATER COMPANY.

On the 22d of October last, the certificate of incorporation of the Boise Valley Water Company was filed; capital, $10,000. The survey was soon after carried out, contracts were let, and now the canal to this city is about one-third finished; all the heaviest work is completed, and the whole canal is to be finished by the 1st of March. The canal is five feet wide at the bottom, seven at the top, and two feet deep, with grades of one-eighth inch to the rod. The present contract is only to this city, but the company will, in all probability, carry it along the foot of the hills for several miles down the valley, though to do so will necessitate an increase of their capital stock. This irrigation canal, if carried out, would bring into cultivation many hundreds of acres of now profitless land.

FARM STOCK.

A great want in this country is good horses at fair rates; for our farmers, as a general rule, seem to think scrub stock as good as any. There is not a single fine-blooded stallion in the country.

The same remarks will also apply to horned stock. A cow that will make seven pounds of butter a week, is thought a good cow.

Sheep are scarce, and mutton retails at twenty-five cents per pound in the markets.

It is true our farmers, mostly men who came here in 1863-4, from the States, many having "lost their all" in the war, and have struggled against high prices of "store goods," crickets, grasshoppers, a want of knowledge of climate, and in some instances we fear from the "canna'-he-fashed" style of some of the North Britain folks. Some sell the wood off their farms for fuel wood, and thus in winter eke out a precarious living, and now that prices are all down, they are discouraged.

Yours, respectfully, Pegasus.

Boise City, Jan. 20th, 1869.

Mining Laws of White Pine Mining District.

Tuesday, Oct. 10th, 1865.

A company of miners met on the above day for the purpose of forming a district. The meeting was called to order and Robert Morrell was nominated to act as President.

Motion made and carried, that this district be known as White Pine District—bounded on the north by the Red Hills, and running from thence south, to a point where the mountains run into a foot-hill; from thence east, twelve miles *from thence;* from thence north, and from thence west to the place of beginning; the district being twelve miles square.

Thomas J. Murphy was nominated to act as Recorder for the District, and was duly elected Recorder of White Pine District for a term of twenty-four months from date.

On motion, the following by-laws were presented and approved:

Sec. 1. The Recorder shall go on the ground and record all claims, for which he will be allowed one dollar per name, after which, no mine can be re-located; but belongs forever to the parties whose names are recorded.—[*Amended.*]

Sec. 2. There shall be an election for a new Recorder on the 10th of October of every second year, who shall be in office as Recorder for two years, unless by death, removed, or by other reasons, when a notice signed by fifty miners of the district, can call a meeting, published by a notice posted thirty days in the district, and advertised for thirty consecutive days in the Reese River papers.—[*Amended.*]

Sec. 3. It shall be the duty of the Recorder to keep in a suitable set of books, or book, a full and truthful record of the proceedings of all public meetings; to place on record all claims put on notice or brought to him for record, when such claims shall not interfere or affect the rights or interests of prior locators, recording the same in order of their date. It shall be the duty of the Recorder to keep his books open, at all times, to the inspection of the public. He shall also have the power to appoint a deputy to act in his stead. It shall be the duty of the Recorder to deliver to his successors in office all books, records, papers, etc., belonging to or pertaining to his office.

Sec. 4. All examinations of the records must be made in the full presence of the Recorder or his deputy.

Sec. 5. Notice of a claim or location of mining ground by any individual, or by a company, on file in the Recorder's Office, shall be deemed equivalent to a record of the same.

Sec. 6. Each claimant shall be entitled to hold by location 200 feet on any lead in the district, with all the dips, spurs, angles, offshoots, outcrops, depths, with variations, and all the mineral and other valuables therein contained. The discoverer of, or locator of a new lead being entitled to one claim extra for discovery.

Sec. 7. The locator of any lead, lode or ledge in the district, shall be entitled to hold on each side of his lead, lode or ledge, located by him, or them, one hundred feet. But this shall not be construed to mean any distinct or parallel ledge within the two hundred feet, other than the one originally located.

Sec. 8. All locations shall be made by a written notice posted upon the ground.

Sec. 9. Every claim located by individuals or company, shall be recorded within fourteen days after the date of location. [*Amended.*]

Sec. 10. The Recorder shall be allowed fifty cents per name for every name on an abstract of record furnished by him.

Sec. 11. The Recorder or his deputy is not required to reside constantly in the district.—[*Amended.*]

Sec. 12. These laws cannot be amended, altered or repealed, for two years.

Sec. 13. Those laws shall take effect on and after the 10th day of October, 1865.

Recorder's Office, Mohawk Canon, White Pine Mining District, July 20th, 1867.

Pursuant to a call, issued by the Recorder, the miners of White Pine Mining District met at the Recorder's Office, Mohawk Cañon, on Saturday, July 20th, 1867, for the purpose of electing a Recorder and amending the by-laws of said district.

On motion made and seconded, H. Woodson was chosen Chairman, and A. J. Leathers, Deputy Recorder, acted as Secretary.

The following amendments to the by-laws were submitted and adopted:

Sec. 1. The Recorder shall be allowed fifty cents per name for recording, instead of one dollar.

Sec. 2. When a claim is located and the proper notice put on it, there shall be allowed ten days to file a notice for record, and thirty days additional time within which the proper amount of work must be done on the ledge.

Sec. 3. All locations already recorded, shall have two days' work done on them for every location on or before the 1st day of February of each year, which work shall hold good until the 20th of July of the same year, and all locations made hereafter shall have the same amount of work done on them within forty days after locating them, which work shall hold good for one year from the date of the record of such work.

Sec. 4. Any location having the necessary amount of work done on it as in the previous article, shall have the same surveyed and the work recorded by the Recorder, within ten days after said work is done, and the Recorder shall receive two dollars for his services to survey and record the same.

Sec. 5. Any claim upon which the necessary work is not done by the 1st of February shall be subject by re-location.

Sec. 6. Any claim having the necessary work done upon it within three months previous of the adoption of these by-laws, shall be considered as having done work to hold for one year from this date, the same being duly recorded as per section fourth.

Sec. 7. The Recorder shall have the privilege of absenting himself from the district, but shall have a deputy appointed to attend to his business during such absence, and in case of resignation, removal or death of the Recorder, the deputy shall immediately give ten days notice by placing written notices at three conspicuous places in the district that an election will be held for Recorder, stating time and place, when a majority of the miners present shall elect to fill the vacancy for the unexpired term, and until such officer be qualified, the deputy shall act as Recorder.

Sec. 8. The Recorder shall, upon the written application of five miners, call a special meeting of the miners of the district, when it shall require a majority of the miners of the district to transact any business; but at the annual meeting on July 20th of each year, a majority of the miners present shall have power to transact any business coming before the meeting.

Sec. 9. Work done upon any portion of a location shall be deemed as having been done for the benefit of the whole of said location, except in case as stated hereinafter.

Sec. 10. No person shall have the privilege of participating in any meeting except *bona fide* miners of the district; and no person shall be considered a miner unless he has a claim recorded and worked according to the by-laws.

Sec. 11. In case where a portion of a company refuse to do the necessary amount of work to hold their claim, after being notified by placing a written notice on the Recorder's office for twenty days, and the other portion of the company wish to work enough to hold their part of said claim, they shall give notice in writing of their intention to the Recorder, and designate what part of the claim they wish to hold, and have the work recorded for that part of the claim, and the balance of said claim shall be subject to re-location if the laws are not complied with.

Sec. 12. The Recorder's term of office shall be one year, or until his successor is qualified.

Sec. 13. All previous by-laws, or parts of by-laws, conflicting with these by-laws, are hereby repealed.

Gold Discovered in England.—A sensation has been created throughout the eastern district of Sutherland within the last few weeks, by a report that gold had been found in Kidonan Strath. Whether it is in paying quantities is another question.

Mechanical.

THE TELEPHONE.—At a recent meeting of the Polytechnic Branch of the American Institute, Dr. Vanderweyde exhibited a new apparatus called the Telephone,—intended to transmit a musical melody by telegraph. It consists of two wooden boxes, one to send the tune over the wire and another to receive it. The first has on its upper surface a round hole with a stretched membrane; so that when by a mouthpiece a person singing throws his voice into the box, this membrane will follow the vibrations of the air corresponding with the tones. In the center of this membrane, a small disk of platinum is attached, which is placed in connection with one pole of a galvanic battery. Over this disk is placed a point of the same metal, which is connected with one of the telegraph wires, and by means of a set screw may be placed at a very small distance from the disk; so that when the membrane vibrates, a rapid succession of contacts is produced. It is clear that when, for instance, the tone is attended with 128 vibrations in a second, the electric current sent over the wire is interrupted 128 times every second. The box at the other end of the line, is a sounding-board, with an electro-magnet; the coil of this being attached with one end to the main wire, and with the other to the earth current, it will become magnetized and unmagnetized one hundred and twenty-eight times in a second, and put the electro-magnet in corresponding vibration; producing a sound, it is true, very soft, and of a nasal character, but very distinct at a short distance,—so that the different tunes are easily recognized at the other end of the line.

TO FIND THE LENGTH OF THE CIRCUMFERENCE OF ANY CIRCLE.—Cyrus P. Grosvenor sends the following to the *Scientific American:* Multiply the difference of the diameter and diagonal of a square of any dimensions by ten, and from the product substract the diameter; the remainder is the length of the circumference of the largest circle which can be inscribed within the square.

How to construct a useful measure.—The rule being very brief is easily remembered and applied.

On a planed board draw a square six inches in diameter and through its center a diagonal line from corner to corner. Extend one side of the square in a straight line indefinitely, or about twenty inches. With dividers or compasses take the diameter and set it on the diagonal at one end, marking the distance. Now take the remainder of the diagonal line with the dividers, and walk them on the extended straight line, including the diameter of the square, ten steps. The distance outside the square is the length of the circumference of a circle of the diameter of six inches.

To apply this measure to circumferences of greater diameter, multiply it by the number of times six inches are contained in such diameter; if the given diameter is less, divide the measure accordingly.

STRENGTH OF METALS.—A bar of cast lead, one inch square, breaks under a strain of 860 pounds; a bar of cast silver will not break until the strain reaches 45,500 pounds; a bar of cast iron will remain intact until the strain exceeds 59,000 pounds; the best wrought iron will bear a weight of 84,000 pounds to a bar an inch square; and a similar bar of steel has been made of such tenacity as to lift a weight of 150,000 pounds before breaking. An alloy of two metals nearly always possesses greater tenacity than either one does separately. A strip of sound oak wood an inch square has been found to lift and sustain 17,300 pounds before breaking; and a similar strip of locust, 20,000 pounds.

STEELING RAILS, POINTS AND CROSSINGS. Mr. Edward Gray, of Sheffield, has patented "a Peculiar and Economical Mode or Method of Strengthening or Rendering more Durable the Rails, Points and Crossings of Railways," which consists in applying to or combining with the iron before it is completely shaped an outer skin or covering of steel, either by welding it on to the iron by the aid of a forge hammer or rolls, or by casting it on the iron by placing the heated iron in a suitable mold and pouring the melted steel over those parts to which it is to be applied.

NEW FRENCH BORING APPARATUS.—*La Houille* describes M. Villepigue's invention as follows: The borer is held by a screwed shaft, which moves in a collar, capable of turning with it, or remaining fixed against a brake. By this means the progress of the boring tool can be made dependent upon the hardness of the rock, the force applied by the workman to the handle being at all times equal. The weight of the apparatus is only forty pounds, and it can be very easily worked. It is supported by a column, which is capable of being fixed in any position, so as to bring the borer opposite its work. All kinds of rock attackable by steel can be operated upon by this machine, and as the boring tool has a spiral form the pulverized rock is thrown out of the hole as fast as produced. The machine will bore from five to six inches per minute in ordinarily hard limestone.

SET ON FIRE BY STEAM.—"We have on our table specimens of boiler lagging, of pine wood, inclosing the steam space and defended by a sheet iron jacket, that are reduced to the condition of porous charcoal, lighting readily by a spark. Cases have been recorded where dry wood was ignited by escaping steam at a distance of not less than thirty yards from the boiler; and we know, personally, where as an experiment, we lighted oil-saturated cotton waste and dry pine wood by the steam from a boiler at a distance of twelve feet,—the boiler pressure being at the time only 95 pounds temperature,—by Regnault, 335°. The materials burst into flame in a few minutes."—*Scientific American.*

CONDENSATION IN CYLINDERS.—The greater part of the water which collects in unprotected cylinders, and which was once supposed to be wholly carried over in the liquid state from the boiler, is produced by liquefaction of part of the steam during its expansion. This liquefaction does not, when it first takes place, directly constitute a waste of heat or energy; for it is accompanied by a corresponding performance of work. It does, however, afterwards, by an indirect process, diminish the efficiency of the engine; for the water acts as a distributor of heat and equalizer of temperature, abstracting heat from the hot and dense steam during its admission into the cylinder, and thus lowering its pressure. *Artisan.*

HARD CEMENT.—M. Schwartz is the originator of this recipe: "To four or five parts of clay, thoroughly dried and pulverized, add two parts of fine iron filings free from oxide, one part of peroxide of manganese, one-half of sea salt, and one-half of borax. Mingle thoroughly and render as fine as possible, then reduce to a thick paste with the necessary quantity of water, mixing thoroughly well. It must be used immediately. After application it should be exposed to warmth, gradually increasing almost to white heat. This cement is very hard, and presents complete resistance alike to red heat and boiling water."

TO COLOR ZINC AND BRASS.—Zinc may be given a fine black color, according to Knafll, by cleaning its surface with sand and sulphuric acid, and immersing it for an instant in a solution composed of four parts of sulphate of nickel and ammonia in forty of water, acidulated with one part of sulphuric acid, and washing and drying it. The black coating adheres firmly, and takes a bronze color under a burnisher. Brass may be stained black with a liquid containing two parts arsenious acid, four hydro-chloric acid, and one of sulphuric acid, in eighty parts of water.

PROPER POSITION FOR AN INDICATOR.—Messrs. Randolph, Elder & Co. have proved that when a rapid current of steam blows *across* the orifice of the nozzle of an indicator, the indicated pressure is less than the real pressure. Every indicator, therefore, should be fixed, if possible, in a position where it is not exposed to this cause of error.

THE ECONOMY OF SUPER-HEATING.—According to recent experiments on a large scale, upon marine engines fitted with super-heating apparatus, about 20 per cent. of fuel was saved by super-heating steam at a pressure of twenty pounds per square inch above the atmosphere, to the extent of 100 degrees Fahrenheit.

LIQUID METALLIC ALLOY.—The only alloy which is liquid at the ordinary temperature, is one consisting of equal parts of potassium and sodium. Both of these metals are solid at the same temperature until brought together.—*Piesse.*

Scientific Miscellany.

DETERMINATION OF CARBON IN GRAPHITE. Professor G. Hinrichs of Iowa City, sends the two following methods,—devised by Dr Gintl, of the University of Prague,—to the *American Journal of Mining:*

First Method. The finely-pulverized graphite is dried at about 150° to 180° C. and weighed in a tube of glass (1 centimeter wide, and about 10 centimeters long), closed at one end, where it forms a small bulb. Of pure lead oxide, well ignited, a weight of about twenty times the weight of graphite taken, is added, and well mixed with the graphite by means of a wire; then the tube with this mixture is weighed.

In a good blow-pipe flame, or in the flame of a blast-lamp, the tube is heated and continually turned, until its contents are completely fused, and no foaming takes place. The tube is now cooled and weighed again; the *loss* in weight represents the amount of escaping carbonic acid, formed from the carbon in the graphite, and the oxygen in the lead oxide. The amount of carbon accordingly is,—since $CO = 12 + 32 = 44$,—twelve forty-fourths, or three-elevenths of this loss of weight.

Second Method. The finely-pulverized graphite is intimately mixed with an excess of nitro, and the mixture heated in a porcelain crucible, until no graphite remains visible. Thereby the carbon is also oxidized to carbonic acid, but remains in the fused mass as carbonate of potassa. The carbonic acid contained in this fused mass is now determined in the usual way, by expelling the carbonic acid with nitric acid in any of the common apparatus.

ZIRCONIA.—We give, from the *Chemical News*, a part of the specification of Du Motay and others, who have patented in England an invention for improvements in preparing Zirconia for use. The peculiar properties of this substance, and the manner of separating it from its ores, are therein given:

"Zirconia, or oxide of zirconium, in whatever manner it may be extracted from its ores, can be agglomerated by compression; for example, into sticks, disks, cylinders, or other forms suitable for being exposed to the flame of mixtures of oxygen and hydrogen,—without undergoing fusion or other alteration. Of all the known terrous oxides, it is the only one which remains entirely unaltered when submitted to the action of a blow-pipe fed by oxygen and hydrogen, or mixtures of oxygen with gaseous or liquid carbonated hydrogen. Zirconia is also, of all the terrous oxides, that which, when introduced into an oxy-hydrogen flame, develops the most intense and the most fixed light.

"To obtain zirconia in a commercial state I extract it from its native ores by transforming, by the action of chlorine in the presence of coal or charcoal, the silicate of zirconium into double chloride of zirconium and of silicium. The chloride of silicium, which is more volatile than the chloride of zirconium, is separated from the latter by the action of heat; the chloride of zirconium remaining is afterwards converted to the state of oxide by any of the methods now used in chemistry. The zirconia thus obtained is first calcined, then moistened, and submitted in molds to the action of a press with or without the intervention of agglutinant substances, such as borax, boracic acid, or clay."

THE HIGHEST MOUNTAIN IN EUROPE.—Elburz, the highest peak of the Caucasus, was ascended during the last summer by a party of Englishmen, and its hight found to be 18,526 feet. As the boundary line between Europe and Asia is now recognized by geographers as the axis of the Caucasus range, and Elburz is on the European side of that line, it is therefore the highest mountain in Europe. Mont Blanc is some three thousand feet less in hight.

IMPROVED CARBON BATTERIES.—Gaiffe states to the French Academy that he finds the plan of Leclanche, of a voltaic battery, in which pounded coke is placed around the carbon, gives good results; and recommends it in all carbon batteries, as considerably augmenting the surface of the carbon element and bringing it nearer to the surface of the porous cell, thus diminishing the internal resistance. In the case of sulphate of mercury and sulphate of lead batteries, he found that *constancy* was almost attained, the needle receding only one degree in 24 hours, from 28° to 27°.

PREPARATION OF PURE WATER.—J. S. Stas gives a new method of preparing perfectly pure water, for delicate analytical operations. It is founded on the use of manganato and permanganate of potassa for the destruction of the minute portions of organic matter. The solution is prepared in the cold by covering with just sufficient water, the freshly powdered mixture resulting from the fusion of chlorate and caustic potassa with manganese; when clear, 4 to 5 per cent. of the volume of the water intended for purification is added to that quantity, and the mixture left standing for twenty-four hours. The still is then charged with another portion of permanganate solution and an equal bulk of *liq. potassæ*, and lastly filled to four-fifths with the water previously mixed, after which distillation is made to proceed as usual.

As soon as the contents reach the boiling point, the heat is moderated to prevent boiling over, to which they are liable from the violent intumescence which occurs. When this ceases the liquid is kept at a constant boil. The first 5 per cent. coming over is rejected, and the remaining, if proper care be had to arrest any drops accidentally carried over, is collected as pure; though, if wanted absolutely pure from any solid or condensable matter, the water after this is once more rectified from a still,—a platinum tube, soldered with gold, serving as condenser.—*Druggists' Circular.*

GOLD IN PYRITES.—"As regards the argument advanced by the adherents of the sulphide theory, that the gold only becomes visible after a preliminary roasting, it finds its explanation in the disintegration which the pyritic particles that surround the gold suffer by the heat. Metallic gold is sometimes visible in undecomposed pyrites, with and without the assistance of a magnifying glass. In disintegrated pyrites it often appears in the forms of scales and grains, which could not be the case if it was contained there in a chemically combined state. Fourcroy's "General System of Chemical Knowledge," published in 1804, has the following passage:

"Bergmann observes that the gold which is extracted from auriferous pyrites by digestion in nitric acid, is in small angular grains,—which proves that this metal existed in the state of simple mixture and not of composition in the pyrites. Thus the ores of copper, silver, lead, iron, cobalt, antimony, from which gold is frequently extracted, by docimastic and metallurgical operation, appear to contain this metal simply disseminated amongst their particles; and there is reason to believe that when these ores are decomposed, the gold which separates from them is carried away by the waters and deposited in the sand as if it were native gold."—*Dr. Ott in American Journal of Mining.*

THE PRIMORDIAL CELL.—"The microscope has demonstrated that all forms of organic life, however complicated, originate in the same simple form,—the primordial cell,—and are built up only by the multiplication and aggregation of cells essentially similar, however apparently differing. It has demonstrated also that every complex organism, however it may possess an aggregate individuality, has nevertheless a multiple and complex life, each cell in the aggregate mass being gifted with an independent and distinct life of its own. It has revealed the existence of vast groups of organisms, vegetable and animal, which never attain a higher level than that of the single cell, yet which have in time past existed in such prodigious numbers that their fossil remains form the substance of great geological deposits, hundreds of feet in depth, and thousands of square miles in horizontal extent."—*President Barnard.*

ALCOHOL RECTIFIED BY GELATIN.—The following is from the *Chemical News:* The greediness of gelatin for moisture suggests a possible use for rectifying small quantities of alcohol, or removing water from collodion in which the use of imperfectly rectified solvents has caused a tendency to give crapy films. Put a little pure gelatin in the spirit to be rectified. There is no danger of any portion of it dissolving, but it will absorb the water and gradually swell; it may then be removed, carrying the water with it. This will be found more convenient than the plan sometimes recommended of agitating with carbonate of potash, and after subsidence decanting.

TRAVELS IN BRAZIL.—Captain Burton, (the discoverer of Lake Tanganyika) has a new book of travels in the press, under the title of "Explorations of the Highlands of Brazil."

California Academy of Sciences.

The Academy met on Monday evening, February 1st, Col. Ransom in the chair. Eighteen gentlemen were elected members, and donations were received of petrified wood from a mine near Grass Valley, presented by Mr. T. A. Mudge, (who at the last annual meeting was unanimously elected Secretary) and of a suit of armor worn by the natives of Alaska before the immigration of the Russians.

SILVER MINES IN SOUTHEAST CALIFORNIA.

Mr. H. G. Hanks read an interesting paper on the mineral resources of Owen's River and adjacent districts, and exhibited some marvelously rich specimens, forming a collection of two or three hundred. Mr. Hanks had explored the Montgomery, Blind Springs, Keyes, Inyo, Russ, Kearsage, Coso, Alabama, Telescope, Slate Range, Argus, Salt Spring, Washington, and other districts; also an extent of almost unknown country in Southern Nevada and Northern Arizona, whence many valuable specimens were obtained. Some of these were labelled as assaying equal to the White Pine ores.

The report referred more especially to the Inyo district, Death Valley, and particularly to the Gun Sight lead, the first silver lode found in California, of which any record exists. He stated that an immigrant party in 1849 came in and reported having seen fabulously rich silver mines on their way, and brought in specimens of pure silver. In 1850, Dr. French, at the head of a party went out to hunt for it, but unsuccessfully, and it has existed in story ever since. The finest specimens exhibited by Mr. Hanks were of argentiferous galena, tetra hedride, kerargyrite, stromeyerite, and molyhdate of lead. There was also a large and rich specimen of Partzite. Some from the Montgomery district, at the northern end of Owen's River, are fahl ores, and antimonial and chloride of silver, and show an abundance of the free metal.

Dr. Gibbons made an interesting statement in relation to the swelling and shrinking of adobe land under the influence of rain and drouth, its effect upon buildings, and observed that cracks in walls thus caused were often erroneously attributed to earthquakes.

New Inventions.

TO PREVENT INCRUSTATION OF STEAM BOILERS.—We learn that a Mr. Hugh McQuade, of Grant County, Oregon, has patented an invention for the prevention of incrustation of steam boilers. His method is to prepare the inside of the boiler plates before or after construction, with a galvanic coating of copper or some other substance with which silver will amalgamate. This always presents a smooth surface to which nothing will attach. His patent bears date Oct. 6th, 1868, and it is his intention to soon bring the invention to the notice of practical engineers on this coast. He has already had applications for the use of his invention, from parties at the East. It is stated that there have been over 300 inventions patented, having a similar purpose, none of which have been entirely successful.—*Portland Oregonian.*

WEBB'S ADDER.—This is not a snake, but a little machine intended at once, and without error, to furnish the sum of any number of figures that may be required. It consists of a flat piece of board to which are fastened two wheels of brass or silver, with an indicator; one of the wheels is marked with numbers from zero to ninety-nine; and on turning this wheel half around from the numbers to be added together, taking them one after the other, the indicator instantly shows what is the sum.

A PATENT has been taken out for a new process in cigar making. The leaf tobacco is ground to a pulp and run off in sheets, as paper is made, done up and sold by the quire or ream—and then every one makes his own cigar, if he pleases.

A PHILADELPHIA professor has invented a steam brick kiln, wherein 100,000 bricks can be evenly burned in three days.

A NEW car wheel has recently been invented, which is made in two parts, and consists of a web which is bolted fast to the hub, and a ring of rubber interposing between the web and the hub, which is secured by the belts and flanges to receive the jar of the loaded car. It is claimed that by this arrangement the cars ride more easily, and the danger of breaking the axle is diminished.

PROF. W. P. BLAKE has been appointed U. S. Assay Commissioner for California.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

FOR THE WEEK ENDING JANUARY 19th.

85,892.—IMPROVEMENT IN WATE WHEELS. Edwin Adams, Orolewa, Cal.:

I claim the above described water wheel, having sliding buckets G G, working in a trough or channel C, said buckets being forced out at the proper point by the pressure of the water admitted through pipes O O, to central chambers K K, and operating in hollow arms F F, and being forced in, to pass the head of the trough, by cams P P, acting against the rollers I I, attached to the shoulders H H, the several parts being constructed and arranged, and operating together substantially as described.

The nature of this invention is to provide an improved water wheel with sliding buckets, for the purpose of utilizing the power of a small stream of water, having a great force of pressure, and consists of a wheel turning on a horizontal or vertical axis. Around the axis are made water chambers, in which water is admitted through pipes to force out the buckets through openings in the rim of the wheel, from which position they are withdrawn by friction rollers passing over the inner edges of involutes at the sides of the wheel. The water as it enters the chambers, acts on a series of pistons corresponding with, and at the ends of the buckets, but having an area, enough larger than that of the buckets, to insure their prompt action.

In our issue of Dec. 26th, 1868, we gave some information of a practical test of this wheel.

85,973.—IMPROVEMENT IN SASH-LOCKS.—William A. Sublett, San Francisco, Cal.:

I claim in combination with the detached ball C, and lever F, the slot E, narrowed both at top and bottom, and the catch P, for holding the ball against the upper incline in the lower sash, to fasten it down, substantially as described.

The object of this invention is to provide an improved device for supporting the sash of windows at any desired elevation, in such a manner as to preclude all possibility of their falling, unless it is desired to lower them by operating the device. It also relates to a mode of securing the windows when closed, so that they cannot be opened from the outside. In the casing opposite the sash, is an opening deepest at the upper end and tapering to the bottom, forming an incline slot, in which a round metal ball is placed, which falling to the lower part of the slot, binds the sash tightly, and prevents its falling. A lever with a projecting handle is so arranged, that by pressing down upon it, the ball is raised to a wider part of the slot and the window allowed to fall. A small catch is pivoted above the handle of the lever which may be turned down, and thus lock the sash so that it can not be raised until the catch is freed. Mr. Sublett is now manufacturing his device for sale. His invention is an ingeninus one, and attracted much attention at the last Mechanics' Fair.

86,007.—IMPROVED BRAKE BLOCK HOLDER. Arthur W. Dorr, Lake Valley, Cal.:

I claim the plate A, provided with the lip or flange a, and fixed jaw b, in combination with the screw B, and the movable jaw C, fitted in the oblong slot d, in A, and provided with the screw nut e, all constructed and arranged in the manner substantially as and for the purpose set forth.

86,008.—IMPROVEMENT IN TEA KETTLES.—Joseph H. Downing, Healdsburg, Cal.:

I claim the combination with the hail-kettle, formed after the fashion of a common tea-kettle, made of whatever material, the pieces D D, substantially as and for the purposes herein shown and described.

86,024.—HYDROCARBON BURNER.—N. May, and H. F. Stivers, San Francisco, Cal.:

1. We claim mixing the oil and water by means of the branch pipes C C', at the junction of the main pipe E, before it enters the fire and water-box or furnace, and the stop-cocks D D', for regulating the relative quantity of water and oil substantially as described.

2. The hydrocarbon burners described consisting of the tanks A B, pipes C C', uniting in main pipe E, chamber J, with pipes *a a*, furnace F, with cocks G, and plate H, the whole being constructed and arranged as described for the purpose set forth.

86,042.—IMPROVEMENT IN OMNIBUSES.—Henry M. Stow, San Francisco, Cal.:

1. I claim in combination with a single fore-wheel turning laterally upon an upright pivot shaft, which supports the front end of the body, and throws the weight thereof upon the axle of said wheel, a slotted tongue embracing said wheel, turning laterally upon the same center therewith, and extending back of the wheel, and its rear end having a movable connection with a segmental bar or way attached to the body, and receiving the strain of the draught substantially as described.

2. In combination with the subject matter of the foregoing claim, the friction wheel on the rear end of the tongue to lessen friction in turning.

86,086.—IMPROVEMENT IN PROPELLERS.—Alfred C. Loud, San Francisco, Cal.:

I claim the propelling wheel herein described, consisting of two or more disks secured in an oppositely inclined position upon a shaft, so that they meet at one point in their periphery, and are there united or joined together by bolts or otherwise, substantially as shown and described for the purposes specified.

RE-ISSUE.

3,274.—IMPROVED PAVEMENT.—Henry M. Stow, San Francisco, Cal. Patented December 10, 1867.

1. I claim a pavement, composed of alternate tiers of square-ended and wedge-shaped blocks, the wedge-shaped ends of the latter being driven into a foundation-bed of sand or earth, substantially as and for the purpose described.

2. A pavement, composed of blocks, with lower ends wedge-formed, and all driven down into a foundation-bed of sand or earth, substantially as shown and described.

3. A pavement, composed of wood, or in whole or in part of other suitable material, laid on a foundation-bed of sand or loose earth, as described, and a portion of the blocks driven down into said foundation-bed, to pack the same substantially as and for the purpose specified.

PREMATURE.—Several inventions having been noticed (inadvertently, no doubt) under the head of "patents," by the daily press, we are led to remark that when an application for a patent is merely *allowed*, the invention is not *patented*, and will not be until after the government receives an additional fee. This the inventor frequently—intentionally or inadvertently—neglects to send, and a patent does not issue. Until a patent *issues*, or the application is perfected, the invention is treated as confidential at the Patent Office, and (except in special cases) it is unusual to report publicly cases at this stage, as it might often prejudice the interests of inventors. The earliest reports of the *full list* of patents issued to inventors of this coast are received by this office, advanced direct by order of the Commissioner of Patents, for which we pay a liberal sum, and to give inventors and the public the benefit of it at the earliest moment, it is forwarded to the daily press before it appears in our own journal.

RESOURCES OF THE PACIFIC SLOPE.—Appleton & Co., New York, publish a massive octavo volume of nearly 800 pages, under the title of Resources of the Pacific Slope, by J. Ross Browne, which embodies besides the mineral resources of the States and Territories west of the Rocky Mountains, heretofore noticed, a sketch of the settlement and explorations of Lower California, etc., from notes by Gabb, Loehr, and Browne, taken on their tour in the interest of the Lower California Land and Emigration Society.

THE ADVERTISING ANNUAL for 1869, of Hudson & Menet, of No. 41 Park Row, N. Y., and 626 Montgomery street, San Francisco,—a beautifully printed little pamphlet,—has been sent to us, and is found valuable in virtue of its list of the newspapers of the Pacific coast; containing besides, articles of interest to advertisers and business men.

THE MANUFACTURER AND BUILDER.—Western & Co., of No. 37 Park Row, publishers of the New York *Journal of Mining*, have issued the first number of a monthly illustrated periodical of the above title. It is a credit to the printer's and engraver's arts, no less than to the judgment of the editor. The price is $1.50 per annum.

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

NORTH BLOOMFIELD GRAVEL MINING Co. Nevada County. Jan. 23d. Capital stock, $800,000; 8,000 shares, $100 each. Trustees: L. L. Robinson, S. F. Butterworth, Thos. Bell, R. Bayerque and W. C. Ralston.

PACIFIC UNION GAS Co.—San Francisco. Jan. 23d. Capital stock, $100,000; 1,000 shares, $100 each. Trustees: David Simpson, James Atkinson, Edward C. Lovell, W. Fisher and Chas. Halsey.

MUTUAL BUILDING ASSOCIATION.—San Francisco. Jan. 23d. Capital stock, $250,000; 2,500 shares, $100 each. Trustees: Howard Chapman, Matthew Bridge, J. W. Ackerson, J. A. Ross, Chas. Harrison, Wm. B. Lake, Joel S. Josselyn, D. A. McDonald and Joseph McGill.

UNION LABORERS' ASSOCIATION.—San Francisco. Jan. 25th. Trustees: Lenpold Dubereau, P. F. Clerc and Nicholas Guille.

IDA S. M. Co.—White Pine, Nev. Jan. 28th. Capital stock, $320,000; 3,200 shares, $100 each. Trustees: W. H. Burnett, W. A. Lampe, R. A. Boyle, H. Kaster and S. E. Oakley.

PALMER S. M. Co.—White Pine, Nev. Jan. 28th. Capital stock, $400,000; 4,000 shares, $100 each. Trustees: J. S. Silver, W. A. Lampe, R. A. Boyle, Henry Kaster and S. E. Oakley.

LEXINGTON M. & M. Co.—White Pine, Nev. Jan. 29th. Capital stock, $1,600,000; 1,600 shares, $100 each. Trustees: R. A. Hawkins, F. Lux, J. W. Tabor, P. Chamberlain and W. B. Latham.

SAN FRANCISCO AND WHITE PINE M. Co. White Pine, Nev. Jan. 29th. Capital stock, $600,000; Trustees: A. Meyer, J. R. Bidleman and T. D. McKeun.

BRODT S. M. Co.—White Pine, Nev. Jan. 30th. Capital stock, $500,000; 10,000 shares, $50 each. Trustees: A. W. Whitney, Otto Kloppenburg, Coll. Deane, Matthias Van Winkle and Martin Scheper,

LAND PURCHASERS' ASSOCIATION.—San Francisco. Jan. 30th. Capital stock, $100,000; 200 shares, $500 each, with right to increase to $400,000. Trustees: J. F. Crosett, C. J. King, George Spaulding, D. E. Hayes, J. W. Cherry, J. A. Magagnns, J. E. Boyce, Geo. H. Lovegrove, C. H. Daley, W. E. Mayhew, S. Barker. President, J. W. Cherry; Vice-President, C. J. King; Secretary, J. F. Crosett; Treasurer, J. A. Magagnos.

SAN FRANCISCO AND TREASURE CITY MINING Co.—White Pine Nev. Feb. 1st. Capital stock, $1,000,000; 20,000 shares, $50 each. Trustees: H. A. Lyons, T. J. Poulterer and Vernon Seaman.

STERLING MINING Co.—Arizona. Feb. 2d. Capital stock, $300,000; 3,000 shares, $100 each. Trustees: Jos. Frank, Moses Rosenbaum and Chas. E. Hitchcock.

PHIL SHERIDAN MINING Co.—White Pine, Nev. Feb. 4th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: Chas. E. McLane, Jno. Hewston, Jr. H. P. Wakelee, R. L. Ogden and B. M. Hartshorne.

CITY FRONT FERRY Co.—San Francisco. Feb. 4th. Capital stock, $500,000; 5,000 shares, $100 each. Trustees: Samuel Tyler, Chas. M. Tyler and Henry F. Williams.

A SCARE FROM BURNING GIANT POWDER. Quite a scampering took place among the hands working in the Ida Elmore mine one day last week, occasioned by one of the men accidentally dropping a lighted candle into a box containing several pounds of Giant Powder. On learning of the accident, the men who were working near the scene at the time, broke furiously for the shaft, expecting every second to be blown into the middle of next summer, and it is well they did so, for the fumes arising from the burning powder were intolerable. All of the men were more or less affected by the terrible stench before they could be drawn up, and two of them were so nearly suffocated that they were not able to resume work for several days.—*Owyhee Avalanche, Jan. 23d.*

Giant Powder contains the same chemical ingredients as nitro-glycerine, with the addition of some silver, whereby it is transformed from a fluid into a solid substance, and rendered less susceptible of voluntary decomposition, or of accidental explosion from any slight percussion. It is identical with the dynamite.

One of the objections to nitro-glycerine in the mines where it has been used, is the injurious effection the health by the fumes generated.

Weekly Stock Circular.

By Associated Brokers of the S F. Stock and Exchange Board.

San Francisco, February 6, 1869.

Financial.

Our local money market works easily and smoothly, with a fair prospect for continuance. It is a great blessing to be free from the convulsions and spasms which affect those money marts where paper currency has usurped the places of gold and silver. Rates, in bank, remain steady at 1@1¼ per cent. per month, with quite an active demand, and abundant supply. Although we have been favored with steady and copious rains, communication with the interior has not been obstructed to the extent it attained at this time last year, and bullion has been furnished in fair quantities. We quote gold bars at 880@890 ; silver bars sell from par to ¼ per cent. premium ; currency drafts on Atlantic cities command 33@33¼ per cent. premium on gold; sight drafts, payable in coin, 1¼ per cent. premium; telegraphic transfers, 1¼ per cent. premium; sterling exchange, 48¾d; commercial, 49@49¼d; Mexican dollars are selling at 5@6 per cent. premium,

Our rain fall, so far this season, has been 12¾ inches, and quite sufficient to insure the growing crops, which are on a scale far more extensive than ever, besides possessing the advantage of being, in good part, on new and strong soils, while the volunteer crops on lands planted last year are much superior to those in Eastern States grown on lands cultivated with much labor and skill.

Next Monday, the 8th inst., our Branch Mint will resume operations. It is as well to remark, in this connection, that we regret to learn the intention to erect a Branch Mint at the Dalles, where it will remain a monument of reproach to Congress, for permitting partisan legislation to baffle the best interests of the people at large, and waste the public moneys to feed a small army of political leeches.

The real estate mania has again fastened its grip upon our people. The value of sales made in January was $2,716,823, and the number 492, being eight more in number, and $1,110,064 more in value than in December last. More business was done in this line during January, 1869, than in any one month of 1868, with the exception of March and September. The Potrero lands were largely dealt in—no less than 121 sales, involving $250,667, have been effected. Two hundred and sixteen mortgages, to the value of $1,185,221, and 157 releases, representing $588,960, were recorded in January last. The market has opened briskly, with every prospect of increased transactions. If the sales in January of the present year, when compared with those for the same month in 1868, afford any index of the real estate business to be transacted in 1869, we may set it down at not less than $50,000,000.

City Stocks.

Our city stocks commanded improved rates during the period under review, and at the close the market is very firm. Seventy shares of Spring Valley Water stock sold at $67 and $68, buyer 30. This company pays its usual monthly dividend on the 10th inst. Early in the week a few shares of North Beach and Mission R. R. sold at $69, and later fifteen shares were disposed of at $70 ℔ share. Gas stock exhibits a very material rise, twenty shares selling on the 3d at $90, seller 3. The usual monthly dividend was paid on the 1st inst. The Pacific Bank paid its customary monthly dividend on the 1st, and the Merchants' Mutual Marine Ins. Co. will disburse its usual dividend on the 10th. At the close, Cal. Steam Navigation Co. stock sold at 65½ per cent.

Mining Share Market.

The mining share market proved to be quite active since our last similar reference. This activity is mainly based on the prospective developments, of which limited success has so far attended several companies on the Comstock ledge, among which we may mention the Belcher, Yellow Jacket and Hale & Norcross, though the latter does not look quite so well at latest dates. Should Ophir prove to reach successful results in drifting from the lower level of its new shaft, we may expect to see a marked improvement in share values.

Belcher—has been remarkably active since our previous issue, rising to $34, and closing at $32. A telegram of the 4th inst. reads: "Assay from 200 level, $72; and 335 level, $69 to the ton." The ore reached in the 335 level, it is expected, will be found in the new exploring drift on the 420 level, arguing from the fact that they have tapped a heavy body of water at the last named point. The ore found on the 200 level lies east of the shaft, toward the Segregated Belcher ground, and arrangements have been perfected with the latter company to raise this ore through their shaft.

Hale & Norcross—maintained its activity throughout the week under an advance up to the 2d inst., when it sold at $85, the next day dropped to $70, and at the close realizing $66. The letter of the 2d states that the ground floor north in the south breast shows more waste than it did the day previous. The second floor continues about the same as previously reported. At the above date they had not yet reached the face of the south drift. In the north drift they found a little ore west of where they crossed the ore with the cross drift, and had not yet gone far enough to get into the ore body. On the 3d the ore in the winze was wider—about four feet—but not of very high grade. The south drift had been opened, and they are now running on a stratum of ore about two feet wide, and also running a cross-drift westward.

Crown Point—sold at $67@68, and closed at $67. On the 31st ult. the sump was fourteen feet below the 1100 level, to which point the pump column has been extended. The east drift of the 1100 level is in 40 feet, running in hard rock. The south drift of the 900 level is in 425 feet from the north line, the face showing clay and phophyry. The extension of the main northeast drift is now over thirty-seven feet east of the east clay, the face of it in granite. Over $28,000 in bullion received on January account.

Kentuck—declined from $232 to $200, and closed at $205. The receipts of bullion for January account foot up $69,359....Overman rose to $84, and closed at $77. It is reported that a good supply of ore is on hand, and that both mills are kept running. The receipts so far upon January account aggregate $21,000. ....Amador (Cal.) advanced to $260, on the 4th instant. The reports from this mine are encouraging. A dividend of $6 per share is payable on the 10th inst. The date for paying dividends has been changed from the 20th to the 10th of the month. Receipts of bullion for January amounted to $47,861, against $46,000 in December. Joel F. Lightner has been elected Secretary of this company in place of Col. Bicknell, resigned, who, we understand, will become connected with Mr. Downey's bank at Los Angeles.

Imperial—has been in moderate request, selling at $144@149 50, and closing at $138. The aggregate receipts of bullion in January amounted to $46,728, against $44,288 in December....Chollar-Potosi has been inactive, realizing $167@171, then selling at $163, and closing at $163. During the week ending January 29th, 919 tons of ore were extracted. The drift at 920 level, of the new works, is in 120 feet, and the drift west from the 1100 level is 64 feet long—all made through porphyry. They have about 64 feet further to run before the west wall will be reached.....Yellow Jacket rose from $1,452 to $1,575, and closed at $1,580. It is believed that at the meeting of the stockholders on the 5th inst. it will be decided to retain the office of the company at Virginia, and that the capital stock will ho changed from feet into shares.

Ophir—advanced from $37 75 to $42 50, and closed at $43 50. On the 3d inst. the shaft was timbered to a depth of 712 feet, and the whole depth exteuded nine feet further. Two more sets of timbers will be required in order to complete the sump, and this they expected to have finished at this date....Gold Hill Quartz shows a bullion yield of $6,956 42 during the month of January. The amount reduced was 339 tons, equal to $20 52 per ton....Eureka, (Cal.) sold on the 30th ult. at $230. The yield for January amounted to $36,210 23.

Overland and White Pine Stage Connections.—W. H. Cottrill, agent of the Austin division of the overland mail route, states that on and after Tuesday, February 2d, the overland stages will connect with the railroad at Elko, instead of Argenta, as now. The new route will follow tho road recently built from Elko to tho White Pine district, and will fall into the present route of the overland mail at Jacob's Wells, some distance east of Austin. Until all arrangements are perfected, the White Pine travel by Wells, Fargo & Co's stages will continue to go by the way of Austin.

At Vallejo and Benicia the *toredo navalis* (shipworm) cannot live, the water being too fresh.

Save your eyesight, by procuring a pair of C. Muller's famous Brazilian Pebble Spectacles. His place is at 205 Montgomery street. *

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale
Amador Co., dividend, $6 per share	Payable Dec. 19, 1868	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co. Nev., Dec. 31, $25	Jan. 30	March 2
Crown Point, Storey co., Dec. 18, $7 50	Jan. 23	Feb. 15
Chalk Mountain, Nevada co., Jan. 13, $2	Feb. 15	March 8*
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12, 1868	
City R. R., San Francisco, Jan. 6, $5	Feb. 10	March 6
Cherokee Flat B. G., Butte co.	Annual Meeting Feb. 6	
Daney, Lyon co., Nev., Jan. 2, $2	Feb. 12	March 1
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Gold Hill Cons., Storey co., Jan. 8, $4	Feb. 13	March 1
Gould & Curry, div., $7.50	Payable May 15, 1867	
Golden Chariot, Idaho, div., $2 50	Payable Jan. 10 1869	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co., div. 50c ℔ sh.	Payable Dec. 26*	
Mt. Tenabo, Lander co., Jan. 23, 75c	March 6	March 30*
Hope Gravel, Nevada co., Jan. 14, $1	Feb. 15	March 8
Hale & Norcross, Storey co., Dec. 12, $5	Jan. 16	Feb. 6
Hale & Norcross, div. $125	Sept. 16, 1867	
I X L, Alpine co., Jan. 19, $1.50	Feb. 27	March 17*
Imperial, Storey co., Nev., div.	Payable June 20, 1868	
Juan Bautista, Santa Clara co., Nov. 27	Sale Jan. 30	
Julia, Storey co., Nev., $2.50	Feb. 10	Feb. 27
Keystone, Consolidated	Special Meeting, Feb 13	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Mohawk & Montreal, Nevada co., Dec. 7, $3	Jan. 25	Feb. 9
North Amer. Wood P. Co., Jan. 15, $1	Feb. 18	March 8*
North Star, dividend, $5	Payable Aug. 15, 1868	
Oriental, Sierra co., Jan. 4, $2.50	Feb. 5	Feb. 20
Peninsula, Storey co., Dec. 15, $10	Feb. 11	March 6
Pacific Unassessable, div.	Payable June 18, 1868	
Rattlesnake, Yuba co., Dec. 19, $7.50	Jan. 21	Feb. 18*
Rippon, Alpine co., Oct. 15, $1	Sale Feb 5*	
Santiago, Silver City, dividend, $2 50	Payable Dec. 19, 1868	
Savage, Virginia, Nev., dividend, $4	Payable Dec. 12, 1868	
Sand Spring Salt, dividend $1	Payable Jan 6, 1869	
Tallulah, Humboldt co., Dec. 14, $17.50	Jan. 29	Feb. 27
Virginia & G. H Water Co., Dividend, payable Nov. 20, 1868		
Yellow Jacket, div., $100	Payable Jan. 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, February 5, 1869.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 6 20s, 1864	$ 81½	82½
United States Bonds, 6 20s, 1862	82	82½
Legal Tender Notes	74	74½
California State Bonds, 7s, 1857	96	98
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	85	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	25	—
Sacramento County Bonds, 6s	65	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	—	75
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	65½	67½
Spring Valley Water Co	68	69¾
State Telegraph Co	26	—
Gas Companies.		
San Francisco Gas Co	87	—
Sacramento Gas Co	65	70
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	71½	—
Central Railroad	50	—
North Beach and Mission Railroad	68	70
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	126	127
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1340	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
Mining Stocks—Washoe District.		
Alpha	59½	60
Baltimore American	—	—
Belcher	32	32½
Bullion, G. H	27	27½
Crown Point	67	67½
Cole (Va.)	—	—
Confidence	33	34
Consolidated Virginia	9	—
Chollar-Potosi	161	161½
Daney	2½	3
Exchequer	27	29
Empire Mill and Mining Co	120	127
Gould & Curry	108	108¼
Gold Hill Quartz	50	—
Hale & Norcross	83	84
Imperial	137	138
Julia	—	2
Justice and Independent	13	15
Kentuck	204	205
Lady Bryan	12	—
North American	20½	21¼
Ophir	43½	44
Overman	76	77
Segregated Belcher	10½	—
Savage	65	66
Sierra Nevada	28	30
Yellow Jacket	1575	1580
Union	—	—
United States	—	—
Miscellaneous Mining Stocks.		
Amador (California)	253	260
North Star (California)	—	—
Eureka (California)	220	—
De Soto (Humboldt)	—	2
Golden Rule, California	12	13

San Francisco Market Rates.

Wholesale Prices.

Friday, February 5, 1869.

Flour, Extra, ℔ bbl	$5 25	@$5 75
Do. Superfine	4 75	@ 4 75
Corn Meal, ℔ 100 lbs	3 25	@ 3 50
Wheat, ℔ 100 lbs	1 50	@ 1 80
Oats, ℔ 100 lbs	2 10	@ 2 25
Barley, ℔ 100 lbs	2 00	@ 2 25
Beans, ℔ 100 lbs	5 00	@ 7 50
Potatoes, ℔ 100 lbs	50	@ 90
Hay, ℔ ton	12 00	@18 00
Live Oak Wood, ℔ cord	9 00	@10 00
Beef, extra, dressed, ℔ lb	8	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ℔ lb	4½	@ 5
Hogs, dressed, ℔ lb	7	@ 8
Groceries, etc.		
Sugar, crushed, ℔ lb	—	@ 17
Do. China	10	@ 12
Coffee, Costa Rica, ℔ lb	—	@ 18
Do. Rio	—	@ 17
Tea, Japan, ℔ lb	75	@ 90
Do Green	60	@ 1 25
Hawaiian Rice, ℔ lb	—	@ 10
China Rice, ℔ lb	6	@ 7
Coal Oil, ℔ gallon	45	@ 48
Candles, ℔ lb	16	@ 18
Ranch Butter, ℔ lb	40	@ 55
Isthmus Butter, ℔ lb	35	@ 40
Cheese, California, ℔ lb	15	@ 20
Eggs, ℔ dozen	45	@ 50
Lard, ℔ lb	12	@ 13
Ham and Bacon, ℔ lb	13	@ 16
Shoulders, ℔ lb	6	@ 8
Retail Prices.		
Butter, California, fresh, ℔ lb	65	@ 75
do. pickled, ℔ lb	30	@ 35
do. Oregon, ℔ lb	20	@ 25
do. New York, ℔ lb	35	@ 40
Cheese, ℔ lb	20	@ 25
Honey, ℔ lb	25	@ 30
Eggs, ℔ dozen	65	@ 75
Lard, ℔ lb	15	@ —
Hams and Bacon, ℔ lb	20	@ 25
Cranberries, ℔ gallon	1 25	@ 1 50
Potatoes, ℔ lb	1½	@ 2
Potatoes, Sweet, ℔ lb	3	@ 5
Tomatoes, ℔ lb	3	@ —
Onions, ℔ lb	3	@ —
Apples, No. 1, ℔ lb	4	@ 6
Pears, Table, ℔ lb	5	@ 6
Plums, dried, ℔ lb	10	@ 12
Peaches, dried, ℔ lb	10	@ 12
Oranges, ℔ dozen	75	@ —
Lemons, ℔ dozen	75	@ 25
Chickens, apiece	50	@ 75
Turkeys, ℔ lb	23	@ 25
Soap, Pale and O	7	@ 12
Soap, Castile, ℔ lb	—	@ 20

San Francisco Metal Market.

Prices for Invoices.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, February 5, 1869.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ℔ 100 lbs; Bar		
1@1½c ℔ lb: Sheet, polished, 3c ℔ lb; common, 1½@1¾c ℔ lb; Plate, 1½c ℔ lb; Pipe, 1½c ℔ lb; Galvanized, 2½c ℔ lb.		
Scotch and English Pig Iron ℔ ton	$39 00	@$40 00
White Pig ℔ ton	36 00	@ 37 00
Refined Bar, bad assortment ℔ lb	— 03	@ — —
Refined Bar, good assortment, ℔ lb	— 04	@ — —
Roller, No. 1 to 4	— 04½	@ — —
Plate, No. 6 to 9	— —	@ — 04½
Sheet, No. 10 to 13	— 04¾	@ — 6
Sheet, No. 14 to 20	— 05	@ — 5¾
Sheet, No. 24 to 27	— 05	@ — 6¼
Copper.—Duty: Sheathing, 3¾c ℔ lb; Pig and Bar, 2½c ℔ lb		
Sheathing, ℔ lb	— —	@ — 26
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
Tin Plates.—Duty: 25 ℔ cent. ad valorem.		
Plates, Charcoal, IX, ℔ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ℔ lb	— —	@ — 25
Steel.—English Cast Steel, ℔ lb	— —	@ — 15
Quicksilver.—℔ lb	— 65	@ — 60
Lead.—Pig, ℔ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9¼
Zinc.—Sheets, ℔ lb	— 10½	@ — 11
Borax.—California, ℔ lb	— 35	@ — 38

New York Metal Market.

[Corrected weekly from the American Artisan.]

New York City, Jan. 16, 1869.

Iron.		
Pig, Scotch, No. 1 (cash) ℔ ton	$42 50	@$45 00
do. American, No. 1 (cash)	41 00	@ 43 00
do. do. No 2	37 00	@ 38 50
Swedish, ordinary sizes	155 00	@165 00
Common	90 00	@ 95 00
Refined	100 00	@120 00
Rods	105 00	@165 00
Horse-shoe	125 00	@ — —
Hoop	135 00	@100 00
Scroll	135 00	@175 00
Nail-rods, ℔ lb	— 9¼	@ — 10
Spring	— 10	@ — —
Tire	— 10¾	@ — —
Steel.		
Bars, best cast, warranted, ℔ lb	— 25	@ — —
Sheet, do	— 23	@ — —
do. second quality	— 20	@ — —
do third quality	— 17	@ — —
Saw-plates, circular	— 30	@ — —
Bolt-plates, warranted	— 23	@ — —
Single do	— 20	@ — —
Montague & Co. (cast bars)	— 19	@ — —
Machinery, round	— 16	@ — —
German, best	— 16	@ — —
do. goat	— 14½	@ — —
do. eagle	— 13	@ — —
Blister, warranted	— 17	@ — —
do. common	— 19	@ — —
Jessop & Sons' common	— 19	@ — —
Double refined	— 26½	@ — —
Stone-axe shapes	— 26½	@ — —
Sundries.		
Solder, ℔ lb	— 20	@ — 22
Antimony	— 17	@ — 18
Spelter	— 9	@ — 10
Copper, old	— 17	@ — 19
Brass, old	— 13	@ — 14
Nails, roofing, ℔ keg	— —	@ — —
do. do. lined	16 00	@ — —
Tin.		
Tin-plate, prime charcoal, per box	9 00	@ 15 75
Banca, ℔ lb	— 40	@ — 41
Straits	— 37	@ — 38
English	— 37	@ — 38
Copper.		
Sheathing, ℔ lb	— 31	@ — 32
Sheet	— 36	@ — —
Bottoms	— 38	@ — 40

Sewing Machine Feeder.—The patent held by A. B. Wilson for the "four-motion feed" used in all family sewing machines for feeding along the cloth, expired on the 19th of December last, and Commissioner Foote has refused to grant an extension. It is ascertained that the actual cost of manufacture of a good machine is only from $10 to $14, while the retail price is $60.—*Exchange.*

There never yet was a case of Dyspepsia too obstinate to yield to the persistent use of this pure vegetable tonic, Plantation Bitters. It gives a new impulse to the whole digestive apparatus. The stomach, reinvigorated by its operation, rapidly turns to nourishment the food that would otherwise have lain for many hours a dead weight there, the work of assimilation is duly performed, the sympathetic brain and nervous system recover their vigor and activity, the animal spirits improve, and the whole being, corporeal and mental, is refreshed, strengthened and regulated. Such are the effects of this wholesome vegetable remedy, at once irresistible and harmless. *

Exportation of Ores from Mexico.—The last mail from the City of Mexico brought news that on the 7th instant Congress finally passed, by a vote of 97 to 20, the bill which permits that all kinds of ores can be exported free of duty.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Markleeville *Miner*, Jan. 23d: The roads are now good and the material for the M. C. M. Co's flume is daily arriving on the ground.

The Mt. Bullion tunnel, which has for a long time been running in hard rock, is now encountering that of very easy working texture. Good time is now being made toward the belt of ledges it is intended to open.

The shaft of the Morning Star is going down now at the rate of two feet per day.

AMADOR COUNTY.

Jackson *Ledger*, Jan. 30th: The Pine Grove correspondent writes: The hoisting works on the Anaconda mine are complete in every sense, and the work of sinking is being vigorously prosecuted. Mr. Shultz has purchased the Thoss sulphuret works, on Else Creek, and is adding a 5-stamp mill thereto.

CALAVERAS COUNTY.

Mokelumne Hill *Chronicle*, Jan. 30th: The Railroad correspondent writes: Last week one of the richest discoveries ever made in any country—a regular "White Pine mine"—a lode four feet wide and fairly sparkling with gold, was unearthed. The lead is located near the mouth of Wet Gulch, on the steep side hill, some 600 ft. above the bed of the gulch. The rock is of unexampled richness.

Herzier & Everhardt are working a very promising lead, a little north of Independence. They have a shaft of 25 feet in depth; lead, 20 inches. Gamble & Co., in the same locality, have also a flattering prospect. Mr. Doe and a number of others have recently struck it rich.

Mr. Smart will soon have his mill in readiness to run. E. J. Reynolds & Co., while sluicing, have discovered a very rich quartz lode within a stone's throw of Independence.

The Chili Gulch correspondent writes: Matthews, Foster & Co's lead, near Whisky Slide, have a shaft sunk to the depth of 138 feet, with a solid vein of quartz, varying in width from three feet near the surface to eight feet at the bottom of the shaft, while the rock taken out while sinking, will work $9 per ton. The well-known Whisky Slide lead has three shafts sunk on it in different places, respectively, 40, 85 and 100 ft. in depth, showing a vein of quartz from 3 feet near the surface to 18 feet in width at 100 feet in depth, while the last rock worked from this mine paid, on an average, $14.44 per ton.

The Junction correspondent writes: Work on the Palomo mine is being pushed ahead most vigorously, and judging from appearances, success is sure to crown the efforts of the company. Work at the Quaker City mill is for the present in a great measure suspended.

INYO COUNTY.

The Los Angeles *Star* says it notices two ingots of fine silver bullion from the Wolfskill & Cervantes Mining Co., of Lone Pine, Owens' River, Inyo County. One of the ingots weighed 87.86 ounces, and assayed .905 fine; the other was 85.50 ounces, .985 fine. We understand the mine is in fine working order, and that the ore is easily extracted and very free in working.

MARIPOSA COUNTY.

Mail, Jan. 29th: We learn that the prospects of a rich result from a second run of the 8-stamp quartz mill of the Mt. Buckingham Co. and prospective cleaning up, which will take place in a few days, after the crushing of 100 tons of ore taken from the vein, ten feet wide, as it comes out, is very flattering. This mine contains an almost inexhaustible amount of quartz rock, easy of access and bringing to the surface, more so than any mine that we have heard of. The next cleaning up will be a fair test of its paying qualities.

Gazette, Jan. 29th: On Friday last we paid a visit to the Benton mills. Here we found everything lively and everybody busy. We were shown through the new quartz mill which is just completed. The mill is worked by water-power, has sixteen stamps, and is intended for dry crushing. The machinery for the Thunderbolt crusher is now at the mill, and will be put in running order in a short time. It is claimed that the Thunderbolt will crush from 30 to 40 tons of rock per day. The company have another mill just below the new one. It is in operation and running 16 stamps. There is on the yard at the mill, some 1,200 tons of rock taken from the Josephine and Pine Tree mines.

While at Coulterville recently, Robert McKee exhibited to us some fine gold-bearing quartz ore, recently taken from his vein. After running a tunnel some 200 ft. he struck the vein which is about four feet thick, and shows gold freely throughout. Ralph Jones is prospecting a mine about two miles below the town of Coulterville; he has a shaft already sunk 90 feet on the vein, which looks well and encouraging. He has a small water-power mill of five stamps, and is now engaged in crushing some of the inferior or refuse rock. Should the experiment justify him in so doing, he will make additional improvements, which will give employment to quite a number of men.... Roberts & Co. have taken the Melvina vein, and are working the same on shares. This mine has not been worked for some time past. There are parties prospecting the vein near Coulterville.

NEVADA COUNTY.

Transcript, Jan. 27th: Townsend & Co. have located 4,000 ft. on Green Horn Creek, for mining and fluming purposes, extending from Townsend's house to Knickerbocker Ravine.

After a week's run the Idaho mine yielded 508 ozs. of amalgam worth $9,000.

A short time since two miners struck a pocket in a ledge near the mouth of Wood's ravine, and in a few days took out a little over $300.

The Cornish Co. on Deer Creek, below this city, is doing very well. The lead is owned by Cornishmen who do their own work. The mill is kept running with one man and four boys, and the owners keep it supplied with rock. The rock is exceedingly rich in sulphurets, and the ledge is large.

Jan. 28th: Five quartz mills are in operation in Enreka district, and will be kept running all the winter.

The recent storm has been exceedingly favorable to the mining interests, and if it is not followed by freezing weather the water supply will be fully adequate for mining purposes, for some time.

For some months past work has been suspended in the Banner mill and the improvements are now nearly completed. Ten stamps have been added, making 40 in all, and the old engine replaced by a new one of 140-horse power. It is expected that on Monday morning the mill will be ready to commence crushing. The mine is looking first rate, is thoroughly opened and will yield abundance of rock to keep the mill continually at work.

Jan. 31st: Fogarty & Co. have located 2,800 ft. on the South Yuba river, commencing at Holt's old crossing, and extending up the river, for mining purposes.

Gazette, Jan. 28th: The winter thus far has been unusually favorable for creek mining. The rains have not been excessive enough to fill up and obstruct operations in the bed of creeks and ravines, while at the same time there has been a sufficiency of water for the owners of claims to work them steadily. Scarcely any damage has been done by the storms in the way of sweeping away flumes, filling up excavations or disturbing temporary water wheels for raising water from below the beds of streams. Below Nevada, on Deer Creek, a large number of miners are actively at work cleaning the bed of the creek and sluicing out the accumulated tailings.

Walter Dikeman, aged 10 years, and a son of S. Dikeman, of Rough and Ready, found a lump of gold worth $28 a few days ago, near his father's residence; and a day or two later his younger brother found a smaller piece. The boys immediately located claims, and have since been at work digging a ditch to bring in water. They refused to suspend work during the late storm and are so excited and anxious to commence sluicing, that they can hardly be induced to take sufficient sleep.

Jan. 29th: The Enterprise Co. on the north side of Deer Creek, near the Cascades, struck pay gravel in the claims a few days since. This company has been running a bedrock tunnel for the past two years, with the expectation of striking a gravel channel. They were in a distance of about 340 ft. with their tunnel, and all the members of the company being poor men, they were much discouraged in not finding the channel as they had anticipated.

Grass Valley *National*, Jan. 25th: We saw this noon at Findley's bank a bucketfull of gold, hot from the retort, which weighed 508 ozs., and is worth about $9,000. It was the product of one week's run from the Idaho mine.

Jan. 29th: The Surprise Co. have located the bed of Green Horn Creek for 500 ft. below the falls. The Elevator Co. have located 2,400 ft. on a quartz ledge at Dead Man's Flat, Rough and Ready township.

Several stringers have been found in the tunnel of the Providence ledge, and the rock in them shows well in gold and sulphurets.

Grass Valley *Union*, Jan. 27th: A few days since the Roannaise Co's claims, situated in this district, was sold to the Enreka Co. for a large amount in coin. The Roannaise Co's claims are on the Enreka ledge, and adjoin the claims of the Enreka Co.

The mining claims situated in Glenbrook Park Race Course, half way between this place and Nevada City, may be considered as good ground. They are worked when water can be had by hydraulic pressure, and paid last winter $10 per hour for every hour they were worked. So far this winter the claims have not been steadily worked, as water has been scarce. The last two or three days' rain will enable the owners to take out the metal.

Jan. 28th: Hydraulic mining to any great extent has been suspended in Enreka township until spring.

The Idaho is working in rock, on the 300 feet level, the richest which has yet been found in their mine. With 15 stamps the Idaho is turning out from $8,000 to $12,000 per week. The sulphurets are not worked, as yet, but are saved, which will add considerable to the actual yield of the mine.

The Empire mine, on Ophir Hill, is also in better average rock than they have ever had before.

The Allison Ranch mine will surely be worked again, and started up early in the spring.

Frank Morse will have the old Larimer mill in running order by the end of this week. The mill will run on the rock taken from the Higgens and Larrimer ledge.

From the Union Hill mine yesterday, was brought to Findley's bank $5,610 worth of gold, the proceeds of 50 tons of rock, from the lower level.

Jan. 30th: The Coe has been stopped for several weeks and the underground arrangements have all filled with water. Two or three days ago, the pump was started up and run for the purpose of clearing the shaft so that parties could go down to inspect the ledge, with a view to the purchase of the mill and mine. The ledge shows well and is thought to be rich.

PLACER COUNTY.

Auburn *Herald*, Jan. 30th: We were shown on yesterday, some rock from the Mammoth mine, upon which the Pioneer mill has been erected, and is now crushing some eight or ten tons per day, which shows free, bright gold to the naked eye, in numerous places. This gold seen is in the solid white quartz, and not found in seams and cavities where the sulphurets have been destroyed, as is usually the case. There is much honeycombed quartz in the ledge, which is rich in gold, and also contains some base metals. The ledge is 16 ft. wide, and the piece we saw came from a depth of 45 ft. The mill is about 400 ft. from the shaft, the two being connected by a railroad track, and two men quarry and deliver at the battery some eight or ten tons per day.

SISKIYOU COUNTY.

Yreka *Union*, Jan. 23d; The cold weather during the past week has stopped pretty much all mining in this immediate vicinity. To avoid disaster to the Shasta River ditch from the accumulation of ice in it, the water has been turned out of it.

TUOLUMNE COUNTY.

Sonora *Democrat*, Jan. 30th: James T. MacLean, has taken a contract from the company to run 500 ft. of the Kincaid Flat tunnel. This will take the tunnel through the ridge and into Kincaid's Flat. The rock is much harder than was expected at the commencement of the enterprise.

YUBA COUNTY.

The Marysville *Appeal* says: The Babb Mining Co., of Timbuctoo, cleaned up a portion of their flume last week, taking out $6,350, after a run of 20 days. They estimate that by cleaning up the whole flume they would take out $8,000 to $10,000. This claim is situated about one mile from the Blue Gravel claim of Smartsville, and on the same lead or river channel. There are several companies working on different portions of this channel between the Babb and Blue Gravel claims. Our mines will not be exhausted till this extensive body of gravel and cement has been washed. The companies at the present time working, and in fact owning nearly all this ground, are J. O'Brien, McAllis & Gordon, Excelsior Canal Co. and the Pittsburgh Co. All the above companies are realizing fair results from their labor; still the great drawback is that none of the above claims are sufficiently low to work their richest and best gravel.

NEVADA.

HUMBOLDT.

Unionville *Register*, Jan. 23d: We were shown on Thursday some samples of ore taken from Gov. Fall's claim, on the Arizona mine, that were richer by far than anything we have heretofore seen from the same ledge. A very large body of this kind of ore was struck by the workmen in the mine.

Silver M. Co. shipped this week 1,044 ozs. of bullion, and Fall & Co. shipped 1,500 ozs.

Jan. 30th: A respectable little mining excitement has been developed over the mountain in Panther Cañon, growing out of the discovery of a rich mineral bearing vein not far from the Alpha mine, and supposed to be on the same lode. Several assays were made of ore taken from the new location, which ranged all the way from $50 to $1,100 to the ton. The ledge is described as being about three ft. thick and the ore considerably decomposed.

A short time since the workmen in the Arizona mine were set to work drifting to the westward from where the tunnel first strikes the lode, and had gone but a few feet when their labors were rewarded by striking a body of ore surpassing in quantity and quality anything yet found in that mountain; and on Wednesday, the hanging wall had not been reached, although the miners had cut into a body of ore eight feet thick. In the whole of this mass of ore there is none that is thrown away, but all is sacked and hauled to the mill for reduction. Should this heavy body of ore continue to the northwestward, as now indicated by its general appearance, new mills will be needed in the spring to crush the ore as fast as taken out.

Silver M. Co. shipped this week 3,112 ozs. of bullion.

The Winnemucca correspondent writes: Fox & McBoth, on Monday last, shipped 10,000 ozs. of bullion from the Little Giant mine in Battle Mountain, which was the result of 17 days' work with a 4-stamp mill.

T. G. Negus shipped three bars, valued at $2,000, from the Golconda mine.

REESE RIVER.

Austin *Reveille*, Jan. 23d: We saw to-day at the office of Boalt & Stetefeldt two large bars of crude bullion, or matte which were brought from Hot Springs or South Columbus district. The matte is a sample of some five tons smelted and ready for shipment. The bars are .87 fine in silver.

We were shown two pieces of the ore taken from the tunnel of the Great Eastern mine at Ophir Cañon, Twin River district, which appears to be identical with that produced in the lower workings of the Murphy.

The Great Eastern has been relocated under a different title by a party of Portuguese miners, who are working the mine with spirit and industry. In the tunnel which they pushed over 100 ft. into the hillside it is said they cut a vein of ore nearly 15 ft. thick.

Mountain *Champion*, Jan. 23d: Water was reached in the main shaft of the El Dorado South, in the Silver Bend district, a few days previous, and a body of immensely rich ore partially uncovered.

We learn that Col. Buel is daily taking ore of a very high grade from the Transylvania and Highbridge mines of the Belmont Co., and that there is on the dumps of those mines and at the mill between 200 and 300 tons of first class ore.

WHITE PINE.

Treasure City *News*, Jan. 23d: The late cold spell of weather has materially interfered with prospecting in this district, yet some there are which neither wind nor weather can daunt.

We saw the deed of the Little Phil. Sheridan mine, located near the Pocotillo, conveying it to a San Francisco party, for a very respectable sum.

We learn that Coover & Co's new 5-stamp mill in the ravine on the northeast side of Treasure Hill has got under way. Moore & Co's 8-stamp mill at Silver Springs will start up during the first week in February.

The bank of John A. Paxton shipped during the months of November and December 1868, $96,711.28. The agency of the First National Bank of Nevada, shipped $101,535.14 during the same period. Total shipment, $198,246.42.

The White Pine mill located at Hamilton has been for sometime undergoing repairs to the boiler. Mr. Miller, the agent in charge, informs us that everything will be completed and running again on Monday, turning out bullion as usual.

The O'Neal & Quinlan mine near the base of Treasure Hill, is a well-defined ledge, three feet or more in thickness, and composed entirely of good ore, so far as opened, of a high grade.

The shaft in the Keystone mine is about

80 feet in depth, starting 15 or 20 feet from the north wall. At a depth of about 70 ft. the shaft strikes this wall and follows it down a distance of ten feet, from which point drifts have been run east and west, following this wall a distance altogether of about 100 feet. The Keystone mine has furnished the richest specimen of silver ore we have seen—the one in Paxton's Bank is worth some $1,500, and about as big as a water bucket.

Virginia *Enterprise*, Jan. 26th: For some days we have heard but little said about White Pine. The heat of the fever appears to be over for the present. Some who have lately come from that region say that the country is already overdone, and predict that one year from to-day the population will be one-third greater than at present.

Treasure City *News*, Jan. 30th: There is nothing at present of which White Pine district stands so much in need as that of mills and other ore-reducing facilities. The dumps on Chloride Flat are nearly all so piled up with ore as to interfere with the successful working of those mines, owing to the fact that no sufficient means of reducing ores can be obtained within a reasonable distance.

The Mary ledge has been opened four or five feet, but is apparently much wider than that. The ore contains copper, lead and antimony, together with silver chlorides. A great many assays have been made, which leave no doubt that the entire vein will yield over $100 per ton.

The Galena mine is the largest and most valuable in the Base Metal Range. It has been opened in several places, all of which yielded excellent ore showing the vein to be 100 feet or more in width. Assays as high as $1,700 per ton have been obtained, and a few tons worked by mill process yielded $152 per ton, notwithstanding there is considerable lead, copper, antimony, and other base metals combined with the chlorides, preventing the amalgamation of the silver by the ordinary mill process. So far as the vein has been opened the entire ore will yield an average considerably above $100 per ton.

The Oasis mill, since the 10th inst., has been running on third-class ore from the Eberhardt, which pays only about $400 per ton. A few days ago, workmen completed the laying of 3,000 feet of 3-inch galvanized iron pipe, for the purpose of conveying an additional supply of water to the mill.

Ore from the Dell mine on Pogonip Flat, works by mill process $256 per ton.

On Wednesday last, at the assay office of T. M. Luther, in Silver Springs, we saw ten bars of bullion, .985 fine, worth about $20,000—a portion of the proceeds of third-class ore from the Eberhardt, worked at the Oasis mill this month.

The Butcher Boy ledge, near this place, is yielding pay ore in large quantities and of good quality.

WASHOE.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Jan. 27th: The Gold Hill Co. have completed a substantial car-track from the mouth of their tunnel to their mill on the opposite side of Main street. The ore is now run from the mine directly to the mill.

Jan. 28th: During the week ending last Friday, 900 tons of ore was taken from the Chollar Potosi mine, averaging $43.67, from the stope, and $26.48 per ton from the cut. On the 22d the company shipped bullion to the value of $6,688.

The Birdsall mill, Dayton, which has been idle for some two weeks, started up on Tuesday, on ore from the Occidental mine. They now have on hand an accumulation of between 1,400 and 1,500 tons of Occidental ore, and unless a very severe storm should occur, the mill will be kept constantly going to its utmost capacity for the next six weeks, or until spring.

Jan. 30th: There was shipped by express from this city during the past week 4,614 pounds of bullion, valued at $126,555.89.

Jan. 31st: The Chollar Potosi Co. yesterday shipped $14,509.50 in bullion.

BRITISH COLUMBIA.

Portland *Oregonian*, Jan. 23d: A gentleman of this city who has business connections with the Kootenai mining region, has just received letters containing information of the most encouraging character, concerning the mining prospects of the coming season. The permanence and richness of the mines are becoming so well established as to attract many of the pack trains which have hitherto been trading to the Blackfoot country. There will be in the spring at least seven trains withdrawn from the Blackfoot route and placed on the road from Walla Walla to Kootenai. It is confidently expected that the yield of gold and the general prosperity of the Kootenai country for the coming season, will be far greater than of any previous year.

COLORADO.

Central City *Register*, Jan. 14th: The first class ore of the Flack mine taken out during the last month was sold to Prof. Hill for $172 per ton. The second class ore averaged about six ozs. of gold per cord.

B. C. Waterman has been putting up a new mill at the head of Eureka Gulch.

Some 500 ozs. of silver were shipped to Denver yesterday, from the works of Hinpeden, Wolters & Co., Georgetown.

From a friend recently from the Arkansas, we learn that mining operations in Granite district are quite active and promising. The winter, thus far, has been mild, with very little snow. Mr. Felton is running his mine and mill regularly, and with very good success. His mine is 115 feet deep, and is yielding very good ore in reasonable quantity.

Central City *Herald*, Jan. 13th: A quartz mill is being put up on Fall River with a view to crushing ore from Russell and Nevada.

A report has been current on the street for the last few days that the Bobtail Drainage Co. intend to shut down. This will stop work on the Bobtail Hill. Also, in the Gregory, Briggs, Smith & Parmelee and Black Hawk mines. Over 300 men will be thrown out of employment.

IDAHO.

Owyhee *Avalanche*, Jan. 23d: Richer ore than ever is now being taken out of the Ida Elmore mine. The main or south shaft is down nearly 100 ft. A new level has been formed at a depth of 80 ft.; a depth of about 60 ft. has been attained in the north shaft, and we can safely assert that at no time in the history of this celebrated mine have the indications been as brilliant as at present. The Ida Elmore mill is kept humming night and day on this ore.

Work is progressing rapidly on the Golden Chariot mine, and huge piles of glittering ore are the results. The Owyhee mill will be employed on it next week.

The Poorman ledge is increasing daily, in quantity and quality; the yield now averages about 40 tons per day of excellent rock. The casing of the lode is, and always has been, very soft and easily worked, none but picking ground has been encountered, and the services of powder is hardly ever required. The Owyhee mill is at work on the ore with good results.

Work has been done on the Minnesota lode. Several hands are employed sinking a shaft, and it looks exceedingly well. Some as rich ore as was ever extracted from any mine in the camp came from this lode.

A shaft is being sunk on the Baxter lode, and occasionally extremely rich ore is disclosed.

Tierny & Co., on the south extension of the Oro Fino, are busy sinking their shaft and the lode looks well; the rock obtained is of a similar character to that of the Ida Elmore.

We have been informed of another rich strike not many miles from town, but owing to some complications we are not at liberty to give particulars at present.

Silver City *Tidal Wave*, Jan. 19th: The Woodstock has had a fine clean-up at the Cosmos mill. We saw a large brick at Blake's, but as it was not yet assayed was of no particular known value.

Uriah Perry, of the Iowa Co. in Flint, came over on Saturday with 1,100 ounces crude bullion, the product of four days' run in Black's 5-stamp mill, $100 per ton and upwards. Perry makes Black's mill play on Rising Star ore.

The John Jacob Astor ledge at Flint, is developing finely. Their tunnel is now in 115 ft., which gives them a depth of 35 ft. The ledge is four ft. wide at this depth and fully equal to the ore that gave $165 per ton last fall, mill process.

The finest body of ore yet struck in the Rising Star mine showed itself on Thursday about 190 ft. below the surface, the whole body of the ledge being very rich at that point in ruby silver of a very high grade.

Jan. 23d: From a gentleman who has just returned from South Mountain we learn that the new mines now being worked there look very promising indeed. The Galena and Original are very wide and rich ledges; and the Young America, a later discovery is said to exhibit some of the finest prospects of any lode yet discovered on this coast. The lode is 12 ft. wide and the ore assays $208 per ton.

The Golden Chariot is taking out rock in large quantities. The Owyhee mill will start on Chariot ore to-day.

MONTANA.

Helena *Post*, Jan. 8th: The strike has subsided, the miners employed by Mr. Hodge have resumed work at the old price of $50 per month, and Mr. Tatem's men have expressed a willingness to do so as soon as he hears from the East. All the differences have been arranged satisfactorily.

A ditch is to be brought into Pony Gulch to convey water from the right hand fork of Willow Creek. This ditch is about 2¼ miles long and has capacity of some 500 in. of water.

The future prospects at Diamond City are brighter than ever before. The prosperity of Diamond City has been the result of her very wealthy placer claims which have yielded to the owners great wealth. These placers are not worked out but will give employment to a large number of men for years to come. We have examined several specimens from the Durant lode, shown us by Mr. Cook, and they are indeed splendid. We have examined specimens from other lodes and we are prepared to believe that there are no better quartz leads in the Territory than can be seen to-day in the vicinity of Diamond City. Mr. D. W. Corbin, the owner of the Durant lode, is at present East, engaged in procuring a splendid quartz mill, which he intends having in full operation by the first day of July next on this lode.

The Phillipsburg correspondent writes: Taking a tour through the mines, I found the miners busily at work everywhere, and in high spirits. The deeper they go the better their leads are. Up the gulch I came first to Mr. Freeman's shaft 110 ft. deep. Then comes John O'Leary's shaft shaft 30 ft. deep. They have excellent ore. I visited the Belle Flower and the Irish Republic where an immense amount of labor has been performed. A fortune is in sight in each of these lodes. These deep shafts and good veins are assurance that the ledges are permanent. I also visited Alexander's tunnel, where he and Mr. Edgar were taking out rich and beautiful ore, and the Hope lode, and was astonished at the richness of the ore that comes out of the deep shaft sunk by James Stuart. On the San Francisco, Estell & Freeman were at work. This lode is in the granite and looks well. Proceeding to the shaft on the line between Nos. 2 and 3 on the Rumley & Bugher lode, I found this opening looking fully as well as discovery. This immense lode is now open to the extent of 1,200 ft. in length, and the narrowest place in it is 27 ft. This lode and the Hope have been tried in the mill and their owners defy any other lodes in Montana to equal them in richness and extent. Work is going on universally throughout this camp, except on those tunnels and shafts which were run last winter to the great bamboo chief—the Comanche. That work is now suspended.

NEW MEXICO.

Santa Fe *Gazette*, Jan. 9th: The report of Col. Darling's expedition during the survey of the boundary line between New Mexico and Colorado, says: Gold and silver mines abound in the Sierra Navajo, San Juan, Las Animas and La Plata ranges of mountains. They have all been indifferently prospected, but on account of the active hostility of the Utes, very little is actually known of their immensity or capacity.

Central City (Col.) *Register*, Jan. 14th: Maxwell's mill, Cimarron, cleaned up on the 7th inst., $5,000 in gold, as the result of one week's run. The lode is opening better than ever.

The Colorado *Chieftain* gives the following: The telegraphic dispatches give accounts of a new mining excitement in the Taos Valley. These mountains along the Rito Seco and Arroyo Hondo, in that valley, have long been supposed to be rich in the precious metals. It has been said for many years that that district was a hundred or two hundred years ago occupied by Spanish miners, who accumulated immense sums of both silver and gold, and abandoned their mines during an Indian war, concealing as carefully as possible all traces of their operations. This new excitement will give an impetus to the explorations of prospectors, and from our knowledge of that country, we predict that rich and extensive discoveries of the precious metals will be made on the Rio Colorado, Arroyo Hondo and Rito Seco. Since Colorado was opened as a mining country, no systematic search for gold has been made in that country, and the indications have always been regarded by scientific men as being of rare promise.

OREGON.

Portland *Oregonian*, Jan. 16th: Frank Cooper, of Marion County, has in this city some specimens of iron ore which is thought to be of excellent quality, from a recently discovered mine in the region of Butto Creek. He proposes to send some of it to San Francisco by the next steamer, for examination and test by experts. He also has here some specimens of stone-coal and lime found in the same neighborhood. The latter is burned from a rock which seems to be mostly a conglomerate of sea shells. The ledge of rock is very deep and the supply inexhaustible. The lime makes an excellent cement, said to be quite as good as that made with Roman cement. Specimens of both the lime and the coal will be sent to San Francisco along with the iron ore.

From Cañon City we learn that mining operations are going on just as in summer time. There has been but little snow in the valleys, though the fall has been quite deep in the mountains. It is anticipated that the supply of water for spring and early summer operations will be good, and that the season will be a prosperous one. There is no local news of importance.

Wallace & Williams will have a 24-stamp quartz mill running in the John Day mines by early spring.

Dalles *Mountaineer*, Jan. 22d: A correspondent writing from Willows Creek, says: Few persons have any idea as to our enterprise. When completed our ditch will be over 100 miles long, and will command more mining ground, and give employment to more miners than there is at present in any mining camp in Oregon. It will require two years to finish the ditch, making seven years from the time the work was begun.

A Southern Oregon paper reports that the miners in Josephine County are all busy. Water is plenty, much rain having fallen there, and the streams are generally much swollen.

The Cañon City *Journal* says: Placer mining on Upper Cañon Creek is still in its infancy. Mr. J. Campbell has claims open and in fine working order, with an average yield per day to the hand of $17.

A Jacksonville paper learns that rich diggings have been struck on Picken's Creek, about eight miles from the Junction House, in Josephine County.

WYOMING.

Sweetwater *Mines*, Jan. 13th: Mr. Anthony shipped his 10-stamp mill recently for Sweetwater, by the lower route.

The South Pass correspondent writes: There is considerable stir in mining. Several rich discoveries have been made lately. At Miners' Delight matters wear a cheerful aspect. The company owning the western portion of the Miners' Delight lode struck very rich rock a few days ago. Some of the specimens which I saw were literally covered with the shining ore, and a piece of rock which was broken showed the free gold in abundance all through it. A sight of the specimens would have banished the doubts of the most skeptical in regard to the richness of our mines.

Walsh & Co's mill would be running now but for the delay of some necessary articles which were lost for a while on the railroad. They expect to be crushing in a week or two.

Sweetwater *Mines*, Jan. 20th: Among the newly-discovered lodes is one called the Nellie Morgan, about half a mile east of the town. There is now about 10 to 12 inches of good ore in sight. Some of the rock shows free gold, and all that has been prospected in a hand mortar yields richly.

Another new lode is the Minerva. A shaft has been sunk 12 feet, which shows a well-defined lead 12 inches wide. In a hand-mortar mill the rock prospects finely. In one prospect which I saw, fine particles of gold were to be seen, literally covering the bottom of the pan.

The Western Co., on the Miners' Delight lode, still continue to raise rich ore from their mine. Some of the specimens are magnificent, being almost entirely covered with the shining "ore." The company has now about 700 tons of ore ready for milling.

The Eastern Co., on the same lode, is now down between 40 and 50 feet, and has a finely-developed ledge of three feet in thickness.

Several new discoveries of lodes have been made in the vicinity of Rock Creek, some of which are said to be very rich.

'COMPRESSED AIR ENGINE.—A Cleveland mechanic claims to have invented an air machine that will give as much power, by increase of size, as can be had from a steam engine. He estimates the saving in fuel alone by his machine at $1,250,000 per year for the 1,000 or more steam engines in use in that city.

R. C. PAGE, (of H. F. Williams & Co.) has gone East to introduce the Stow Pavement there.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, Feb. 6, 1869.

Notices to Correspondents.

GUNPOWDER.—Artificially produced nitre is obtained by mingling together animal matters, ashes, and lime rubbish, in loosely aggregated heaps, and exposing such heaps to the atmosphere, but carefully protected from rain. When obtainable, the heaps are from time to time moistened with urine, and stable runnings; at appropriate intervals theso heaps are lixiviated, and the salt crystallized. Three years usually elapse before such nitre beds are worked; after which interval a cubic foot of the mixtnre is expected to yield between four and five ounces of nitre. It is found by the proprietors of the nitre plantations, that by the employment of the earth previously used for this purpose, it yields a fresh crop of nitre much more quickly than when fresh earth is used for the purpose.

SALIFEROUS.—The Wielitzka salt mine, which it has been recently stated is likely to be unworkable at an early day in consequence of an immense and apparently increasing influx of water, is in a bed which consists, as calculated, of a mass of rock-salt 500 miles in length, twenty miles broad, and 1,200 feet in thickness. Its geological positiou is in the cretaceous series, and it consequently belongs to the same geological era as the great mass of rock west of the Sierra, in California. The last fact is noteworthy as rendering it possible that similar saliferous deposits may some day be discovered in this State, though it is now well established that salt deposits may occur in all of the geological ages, down to the Silurian, the conditions being the existence of shallow or isolated basins.

L. S. M.—The electricity developed by friction in the ordinary electrical machine, as shown by Farraday, produces a corresponding amount of magnetic action on the needle of the galvanometer, and an equivalent amount of chemical decomposition. on electrolytes through which it is transmitted; and in the fusion of metallic wires we have evidence of its capability of producing heat of an intense character, while in the electric spark we have evidence of its power to produce light. The experiments of Farraday corroborated by those made by other scientists, have shown that the motion of a magnet of given strength, under certain conditions, produces, in a closed metallic conductor, a definite current of electricity, and through the electricity thus set in motion, light, heat, and chemical action may be developed.

A SUFFERER.—A lute for iron joints may be composed of a mixture of 60 parts of iron filings, sifted fine, and two of sal ammoniac, in fine powder, intimately blended, with one part of flowers of sulphur. The powder must afterwards be made into paste by means of water, and must be applied immediately; in a few minutes the lute so composed will become hot, will swell and evolve sulphuretcd hydrogen, and it speedily sets as hard as iron itself.

Freights to the Far Interior.

The importance of moderate freights for the development of the great interior having forced itself upon the attention of the Chamber of Commerce of this city, Mr. Chas. Crocker, the General Superintendent of the Central Pacific Railroad, has given notice, in a card to the business men of this State and of Nevada, that after July 1st a "material reduction" is to be made from the present rates on that road. These are now about double the rates charged on the eastern end, the Union Pacific Railroad; and the Denver and Central City people are complaining, nevertheless, of exorbitance even there.

Unless the managers of these grand railroad enterprises, in the interest of miners, prospectors and settlers in the interior, as well as of California and of the nation at large, are very stupidly blind, they will recognize the principle as an *axiom* in the matter of freight tariffs, that encouragement of the greatest amonnt of travel and freighting to which the circumstances of the country admit of being stimnlated, in local as well as in through business, will have the effect the more speedily to enhance the valne of their entire property, while nothing whatever is in danger of being lost in the matter of actual fare and freight even at a moderate advance only on the cost of transportation.

The foreseeing enterprise that could undertake and carry through such a piece of work as the building of the Pacific Railroad, will not fail to discover that the interests of a great through line, so advantageonsly situated—having an empire to develop, with untold wealth in the precious metals, the metallurgical conditions of which are involved in cheap freights—are all in favor of the lowest practicable rates.

Thus the question of fares and freights is likely to settle itself, and in a very natnral and qniet manner. If the railroad mauagers are wise, they will never permit the representatives of the peoplo to have any occasion to bring up the matter in Congress at all. An equally good reason for pursuing the most liberal courso is the probability that competitory roads, which, hereafter, are not to be favored with such extensive land grants, would not be called into existence by the demands for cheap freighting until after the destinies and the balance of trade and power in the land have become fixed and subservient to the interests of the first grand continental ronte.

OVERLAND MONTHLY.—The February number of this magazine contains articles of geographical and scientific value on Whirlwind Valley in Eastern Nevada; on the District of the Lakes, (referring to the salt lakes of the Great Basin); and on the Experiences of Eight Months in Sitka. The article on the Darien Ship Canal is by Mr. Bryan, an experienced canal engineer, who has been connected with various pnblic works, more espccially with the Baltimore and Ohio canal, and is an able review of the engineering questions involved in the different routes that have been proposed.

CENTRIFUGAL QUICKSILVER SEPARATOR.—At the Pioche electro-metallurgical works on Valencia street, corner of Seventeenth, there is in operation a little invention of Mr. A. Frick's, designed to separate the finely-diffused grains of quicksilver from the pulp which has been worked by the Nolf electric decomposition and amalgamation process. The pulp is fed through a funnel, on a horizontal revolving disc, like a plate or shallow bowl. By means of centrifugal force, the heavier qnicksilver particles are thrown violently against the walls of the tub, and there caused naturally to flow together, and to separate accordingly, from the lighter substances, by forming a stratum at the bottom of the tub.

History and Prospects of the Temescal Tin Mines.

It seems that as early as 1642, the people living at the Mission of San Gabriel became aware of the existence of a lode of singular reddish-brown metal at a place near the banks of the Temescal River, the Indian medicine men in the vicinity of the Mission having used it to eure the sick of their tribe; but the locality of the Pojalco, or Medicine Hill, was long concealed, until one of the tribe, being about to die, informed the white men at the Mission of the spot, and the latter going in search, found the hole from which the Indians had obtained the ore—but it yielded no silver. Not very long after the advent of Anglo Saxon hordes upon this coast, a wide awake one (whose name we regret we are not able to give in this connection) happened upon, and appreciated the trne valne of the deposit, and the result was that the lode, with a large tract of land around it was taken up; but the title was in dispute, and the claimants were unwilling to spend any money on the mine, until October, 1867, when the United States government finally issued a patent for a considerable tract of land, including the mine; but the large quantities of rain which fell last winter prevented any active operations, and they were not commenced by the company till the 24th of June, 1868. Since that time some 572 feet of drifts and 136 feet of shafts have been made. The main vein has been opened to the depth of 96 feet at the deepest point, and drifts have been run 300 feet.

The country rock is said to be granite without mica—or granulite. The drifts are all run in the foot wall, which is softer than the gangue. From twenty to fifty tons could be taken out daily from the mine in its present condition.

The company will sink 100 feet further and run a drift 100 feet long at that depth before they make any definite arrangements for reducing the ore; but the plan is not yet determined, further than they will crush and concentrate all the ore under 30 per cent., until it is 70 per cent. fine. This will cost, it is estimated, $3 per ton of crude ore.

Whether smelting will be undertaken at the spot, or the ore sent to England, seems to be yet undetermined. It is not an easy smelting ore, on account of its mixture with a large percentage of peroxide of iron; otherwise there would not be any question in regard to the matter. Skill in concentration, or a knowledge of the available metallurgical methods for getting rid of iron in such cases, should, it would seem, enable the company to avoid the necessity of shipping their ores. Wood in abundance can be procured at the distance of five miles from the mine. The distance to San Bernardino is fifty-five miles, and to Anaheim thirty-two miles, over an easy grade. The company employs about twenty-five men.

CHARACTER OF THE FEATHERSONE AND HIDDEN TREASURE MINES.—A valuable contribution to the mining geology of White Pine has just been made by E. B. Dorsey, M. E., in his report on the Featherstone mine, near Hamilton, White Pine, which contains important facts determining the nature of that and the Hidden Treasure deposits, with a diagram illustrating the former. The Hidden Treasnre and Featherstone mines are held to be trne contact veins, having a clay gouge between the vein matter and country rock,—facts showing conclusively that they are not mere infiltrations.

MYSTERY OF MOTION.—The lecture before the Young Men's Christian Association, on Tuesday last, by Rev. E. Corwin of Oakland, was a philosophical dissertation in which the speaker traced some common grounds between astronomy and the crystallizing force of atoms, as developed in the modern science of the correlation of forces.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

ANNUAL MEETING OF THE MECHANICS' INSTITUTE.—The Mechanics' Institute held its fourteenth annual meeting on Thursday evening, at the hall of the association on Post street—President Hallidie in the chair. The Treasurer submitted his annual report, from which we gather the following:

Total receipts during the year	$15,320 69
Total expenditures	15,094 23
Balance	$ 226 46

REPORT OF THE BUILDING COMMITTEE.

For rents, etc	$ 6,981 60
For repairs, etc	2,243 09
Receipts from members	1,110 00
Receipts from life members	700 00
Receipts from reading members	234 00

Books added to the library by purchase, 752 volumes; by presentation, 35. There have joined the association during the year 252 stock members; 109 reading members, and 14 life members.

The following committee was selected to make nominations for officers of the Institute for the ensuing year—the election to take place on the first Monday in March: H. K. Cummings, H. T. Blithe, Charles F. Bassett, Wm. McKibben, D. E. Hayes.

General Winn gave notice that he would at the next meeting submit a resolution authorizing the Board of Directors to issue stock to corporations whereby other bodies may be admitted as members of the Institute. It was also resolved to close the chess room, reading room and library every evening at ten o'clock, excepting on Saturday evening, when the hour of closing will be at half-past ten.

ARTIFICIAL STONE COMPANY.—Messrs. E. T. Steen & Co., who have formed themselves into a corporation under the title of the "Pacific Stone Company," and located their works at the corner of Turk and Larkin streets, are, we are pleased to learn, meeting with gratifying success, having already received orders for work as we are informed amounting to over $100,000. An earthquake-proof building material can be made by casting the stones with holes through them, for anchoring vertically or horizontally along the wall. Honse-fronts of this material are mainly in demand Pillars, or any other kind of article for nse or ornament, can be cast hollow, thus uniting the solidity, permanence and beauty of stone, with the lightness and cheapness almost of wood. Fence-posts, hollow and consequently light, are to be made by a centrifugal pipe-molding machine, if that can be made to work, as there is reason to believe it can. They could be made very cheaply in that manner, and provided with openings for rails, or wires, and an ornamental cap. Drain-pipes may also be found worth manufacturing. The materials used are common sand, as found everywhere, in quantities to satisfy; caustic soda, imported from England at a few cents a pound; and chloride of lime, also imported, at 2½ cents a pound, being the remnants of soda manufacture in Scotland, where a thousand carboys a day are thrown away. With caustic soda and qnartz they make silicate of soda on the ground, by boiling under pressnre. The works at the corner of Turk and Larkin streets are quite extensive and interesting, especially to the scientific visitor who can comprehend the chemistry of the process. A fuller description of them will be given hereafter.

VOLUME IV of the Proceedings of the California Academy of Sciences, contains valuable papers on the following subjects: Additions to the Fauna of California, by Dr. J. G. Cooper; Notes on Alaska, by T. A. Blake; on Botanical Gardens, by Prof. Bolander; Explorations in Alaska, by W. H. Dall; and on Earthquakes on Kern river in the central portion of the Sierra Nevada, by J. E. Clayton, M. E.

THE State Agricultural Society held its annual election on the 28th ult. Charles F. Reed was unanimously reëlected President; and in the evening the new Board of Directors elected Robert Beck Secretary, I. N. Hoag, the old Secretary, having declined reëlection.

Metallurgical Works.

In our notices of the chemical and metallurgical works in this city, we have left those depending upon simple pan amalgamation, to the last; being in only one case independent establishments—we refer to the place of G. W. Strong, on Stevenson street—generally located in a side room connected with one or another of the foundries, where pans of a partienlar construction are cast, and kept up mainly with a view to satisfying miners of the advantages of the same; or to afford facilities for trial and experiment to inventors who have new machinery, or now processes to deviso and carry out, which are dependent on the iron-workers' art before being brought to the attention of the public.

Mr. Strong's works aro in the basement at No. 10 Stevenson street, near First—in the vicinity of the foundries. To a visitor the place at this time presents a scene of unusual activity. A two-stamp mill, and a peculiar oscillating concentrator of Mr. Strong's invention, make noise enough to prevent idle conversation, and extra mortars and pestles, bateas and the like, are at work in the hands of assistants; while the assaying and roasting furnace stand in readiness to be used daily, or as occasion may demand. Ores of all kinds, for assay partly, but mainly for test workings on a larger scale, by such different processes as may be deemed worthy of a trial, are sent here from the gold as well as from the silver regions; the present jobs being mainly from White Pine, and containing some base or refractory ingredients.

Everything new, but more especially everything of established merit that has been developed in amalgamation, is the familiar and every-day subject matter of discussion and of trial at a place of this kind. In all that is known and proven to work to advantage in the amalgamation of gold and silver ores, Mr. Strong's works afford probably the best practical school on the coast, especially as Mr. Strong devotes himself to giving instruction in the different methods, as well as to working ores experimentally. Assaying having been his business for more than twenty years before coming to this country, the California and Nevada modifications of the several former amalgamation processes have fallen naturally to his hand; and his wide acquaintance with actual miners and mine owners, as far interior as the Rocky Mountains, furnishes the best evidence of his thoroughness in that specialty.

Two pans are at work here, the one most depended upon being the Union Pan, with a self adjusting muller.

The concentrator is a combination of the principle of the pointed box, best known in the form of the Rittenger box, or *spitzkasten*, with that of oscillation (not percussion), the operation being that of flooding away the lighter particles at the same time that a sharp oscillatory motion facilitates the settling of the heavier particles to the lowest point in the box. It possesses the advantage of never banking up at or near the point of discharge of the tailings. The ore may be made self-discharging, or not. A batch of 600 pounds of 8 per cent. tin from Temescal have just been washed by Mr. Strong, with satisfactory results.

Amalgamation rooms are connected with the foundries of Goddard & Co., Howland, Angell & Co., Palmer, Knox & Co., and at the Vulcan Foundry.

Mr. Varney's office, in connection with the Pacific Foundry, is, like the Works of Mr. Strong, devoted more especially to amalgamation processes, and also to the manufacture and sale of the Varney Pan.

Mining Laws of White Pine.—We are indebted to Mr. James Devlin, of Treasure City, for a copy of the mining laws of White Pine, which we publish on another page.

Rainfall of the Season.—The fall of rain during October, November, December and January, was as follows: In October, 15-hundredths of an inch; in November, 1 inch and 18-hundredths; in December, 4 inches and 34-hundredths; in January, 6 inches and 35-hundredths—making a total for the months named of 12 inches and 2 hundredths.

During the corresponding season in 1866-7, the amount of rain which fell was 21 inches and 5-hundredths, and in 1867-8 it was 23 inches and 84-hundredths; showing that we have had only a little more than half as much as in 1867-8, and that we shall require double the quantity henceforth to the end of the rainy season, in order to make up.

The Woodbridge *Messenger* says that a person who has been for many years a trapper and hunter in the extensive tule field west of Woodbridge, intimates that beaver have built higher houses than in any previous autumn—even that preceding the wet winter of 1861-2—and that such is the usage of these sagacious animals preceding wet winters.

The Rocky Mountain Parks.—The enterprising publishers of the Denver (Colorado) *Times* have issued an extra sheet with a well executed wood-cut map, representing the mountainous topography of one of the famous parks of the Rocky Mountains—the San Luis Park, containing Sawatch lake and the headwaters of the Rio Grande del Norte. A glance at the topography alone is sufficient to create at once a strong desire to visit those wonderful valleys that remind one so forcibly of Rasselas' happy valley, the monotony of his seclusion, his intense desire to get out into the great world for adventure, and of his futile attempts to do so by the narrow defile which afforded exit to the river of the valley. The system of Colorado parks and their geology and mineralogy, described in print on the back of the map, we find both interesting and valuable as reading matter, and worthy of laying aside for future reference.

The Legal Points at White Pine.—In the recent mining suit of the Eberhardt *vs.* the Richmond claims, at Austin, the jury came to the conclusion that there is a defined lode, and so ejected the Richmond parties as the latest locators. The significant point related of the workings was, that all within a belt of 200 feet, the limits of which are plainly visible, yield ore of more or less richness, while nothing is obtained from the holes dug on either side of that belt.

At Chloride Flat, it is supposed that there is a stratum of rich ore, say a hundred feet deep; then a bed of limestone or porphyry, fifty or a hundred and fifty feet thick, as the case may be; then another layer of ore, another of limestone, and so on. Jumpers contend that there is no difference in principle whether the veins lie horizontal, or stand vertical, or at an angle of forty-five degrees. The intervention of foreign rock, it is claimed, produces separate veins as much in one case as in the other.

Mining Reports Received.—We have received, and will notice more fully hereafter, the reports of the Arroyo Hondo Mining and Ditch Company of New Mexico (near Santa Fé), and of the Globe Gold and Silver Mining Company, of Alpine County, Cal., with maps, published in connection with "Some Facts about Gold and Silver Mines and Mining in California and Nevada."

The San Francisco Daily Herald.—This newspaper has taken its place amongst the journals of San Francisco, not as a new enterprise, but as an institution having already made its history, and quite as a matter of course. It is filled with an immense amount of ably prepared matter. The *personelle* of the office consists, evidently, of none but experienced newspaper men.

Turquois.—In the Columbus mining district (Nev.) beautiful specimens of genuine turquois have been lately discovered. A large and finely-tinted specimen will be presented to the King of Persia, by whom the mineral is highly esteemed. It is a bluish green, opaque phosphate of alumina and lime, with silica, iron, and copper, of the hardness of feldspar (6).

Our Office.

The office of the Mining and Scientific Press is located in the second story at No. 414 *Clay* street, north side, just below Sansome. Here we have spacious accommodations, with our patent rooms, editorial room, counting room, newspaper and job printing offices,—all conveniently arranged and connected, and our facilities for dispatching business correctly and economically, better than ever before. Don't forget the number—414 Clay street, below Sansome.

DEWEY & CO.

No Branch Office.

Our friends and patrons will bear in mind that we have no branch office in San Francisco, our U. S. and Foreign Patent Agency rooms being suitably arranged with our Mining and Scientific Press printing office, at No. 414 Clay street. We have no partners in business except the undersigned. DEWEY & CO.

A. T. DEWEY. W. B. EWER.

Returned.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

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O. M Taylor, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office, without fail.

A Short Engagement.—The person who visited Yuba, Sierra, and Plumas counties, last fall, as agent and correspondent of the Press, only continued a short time in that capacity.

Co-Operative Union Store.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco 6v18-3m

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Save Your Teeth.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

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Where to Advertise.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local colums afford many items for our city cotemporaries, while its rates of advertising are reasonably low 10v17tf

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ACROSTIC.

Pain Killer is *worth* what it weighs, in gold,
All around the world are its praises told;
It will Cholera cure—scourge of southern climes,
No victim dies, who takes it betimes.

Keep Pain Killer—a true friend by your side,
It will cure Cough or Cold, or Colic by-side;
Look out to apply it for Bruise or for Sprain,
Let it once be tried—"*twill be used again*;
Every word I am telling you, Reader, is true;
Remember that Pain Killer *is great for you*.

The Pain Killer is sold by all Druggists and dealers in Family Medicines.
REMINGTON & CO., and HOSTETTER & SMITH, San Francisco Cal., General Wholesale Agents. febtim

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PAIN KILLER.

No article ever attained to such unbounded popularity.—*Salem Observer.*

An article of great merit and virtue.—*Cin. Nonpareil.*

We can bear testimony to the efficacy of the Pain Killer. We have seen its magic effects in soothing the severest pain, and know it to be a good article.—*Cincinnati Dispatch.*

A speedy cure for pain—no family should be without it.—*Montreal Transcript.*

Nothing has yet surpassed the Pain Killer, which is the most valuable family medicine now in use.—*Tenn. Organ.*

It has real merit; as a means of removing pain, no medicine has acquired a reputation equal to Perry Davis' Pain Killer.—*Newport (Ky.) Daily News.*

It is really a valuable medicine—it is used by many physicians.—*Boston Traveller.* 26v17-1m

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PIONEER MINING SCHOOL,
—AND—
METALLURGIC WORKS.

Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of

Chemistry, Assaying and Metallurgy,

That I am prepared to teach all the above branches in less time than in any European School.

I also undertake to assay and work any kind of ore, or mineral substances.

For terms, apply to **JOS. MOSHEIMER,**
Practical Chemist and Metallurgist.

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"A SUCCESS UNPRECEDENTED."

[See following extract from the Globe of May 11, 1868.]

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Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London. 6v18-1y

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"IMPROVED SPRING-BED BOTTOM."
(Patented July 21st, 1868.

The undersigned, having purchased the Patentee's interest in the States and Territories of the Pacific Coast, is now prepared to supply Private Houses, Hotels and Steamers with this comfortable, economical and durable "IMPROVED SPRING BED BOTTOM."

Persons going to White Pine will greatly promote their comfort by taking one of these Patent Bottoms, which is secured to a folding Bedstead, the cost of which is less than that of the materials at White Pine.

Wareroom, No. 1002 Market Street.
P. HUDSON, Proprietor.
☞Call and examine. Open until 8 o'clock P. M.

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Rolling Mill Company,
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RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
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THE MOROAN PATENT CRUCIBLES have uniform quality, never crack, withstand the greatest heat without danger; heats more rapidly than any other; change of temperature has no effect on them; stand on the average forty to fifty pourings.

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1v13-3m9p

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NEW GRINDER AND AMALGAMATOR

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AMALGAMATOR AND SEPARATOR,

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Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

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Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

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STEAM ENGINES,

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Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

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Castings of every description, Iron and Brass.

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Steam Engines, Boilers,

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Ben. Holladay,

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Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 24v17-qy

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BANK VAULTS AND MONITOR SAFES,

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Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the
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CITY IRON WORKS COMPANY.

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Orders from the interior faithfully attended to.

THE NEW CABLE.—The core of the French Atlantic cable which is to be laid in June next, consists of seven copper wires, the center one of which is coated with a film of adhesive matter known as "Chatterton's compound." It is made in lengths of one mile, and wound on iron reels, whence it passes through a die to determine the size;—plastic gutta percha being at the same time forced down upon it by screw pressure. Four successive coatings are put on in this manner; and between every two the conductor receives a coat of the above named adhesive compound. It then undergoes immersion for twenty-four hours in water of 75° Fah., at the expiration of which it is subjected to the most delicate test that electricians can devise. The coils, after being tested and passed, are joined two together, and wound on drums, to be conveyed to the sheathing works, all joints between the coils having also been put under a rigid electrical test. Jute yarn is then wound round the core, after which ten wires of homogeneous iron, each of which is covered with Manila yarn, steeped in tar, are added, and the cable is complete. The total weight of the core is 800 pounds per nautical mile, the copper being 400 and the gutta percha 400. The total length of cable for the section from Brest to St. Pierre is 2,788 nautical miles. The second section, from St. Pierre to New York, will be a smaller wire, consisting of a conductor of 107 pounds per nautical mile, and the insulator 150 pounds, the length being 776 nautical miles.

THE STANDARD YARD.—The standard of linear measure adopted by the State of New York, is determined from a pendulum which vibrates seconds in a vacuum at Columbia College, which is in the latitude 40° 42′ 43″. The yard is declared to be 1,000,000-1,087,141 of this pendulum, hence, the length of the pendulum is 39.101688 inches at the temperature of 32°. Should the standard yard be lost, it could be recovered by experimenting in accordance with these conditions.

The Imperial standard yard of Great Britain is determined from a pendulum which vibrates seconds, in a vacuum at the level of the sea, in Greenwich or London. This pendulum is divided into 391,393 equal parts, and 360,000 of these parts are declared by Act of Parliament to be the standard yard, at the temperature of 62 degrees; consequently, since the yard is divided into 36 inches it follows that the length of a pendulum vibrating seconds under these circumstances is 39.1393 inches.

PROFITS OF EUROPEAN PATENTS.—Our London correspondent remarks in a recent letter, that the American origin of an invention is now a recommendation in Europe, where many of these inventions are in successful operation and large fortunes have been realized by their introduction. Improvements relating to some manufactures are of great value in this kingdom. Mr. Bessemer derives an annual income of about $2,000,000 from his British steel patents, and the patentee of a device for driving millstones by a revolving diamond, has realized over $1,000,000 the first year of his patent. The use of a diamond for this purpose is an American invention, and the estimated value of the exclusive right in England, for ten years, is $5,000,000. British patents, as a rule, are the most valuable, but many inventions are equally profitable in other parts of Europe, and some are peculiarly adapted to continental wants and customs.

THE GOVERNMENT LABORATORIES.—The French Government is at present engaged in the construction of a magnificent suite of laboratories in Paris, for the pursuit experimentally of the higher physics and chemistry, as well as their application. This has no doubt been urged on by the like move made three years ago, by the Prussian Government, in the vast laboratories established at Berlin and at Bonn. In both countries, knowledge, pure science, is promoted and reverenced. In Great Britain such a thing as a "national *physical* laboratory does not exist; nor indeed in a strict sense do we possess a national school, much less laboratory, of chemistry. Yet ours is the country that declares it intends to keep in the van of all science."—*Coll. Guardian.*

MORE GOLD IN CANADA.—The Wolfville (Canada) *Acadian* says there is quite an excitement in reference to gold diggings on the Gasperaux Mountain, directly south of Wolfville. Mr. Nathan Harris has been offered $1,000 for his claims.

How to make Good Bread.—If any body ought to know all about the matter named in our heading, it is a miner. Yet there are pleaty of hard-fisted fellows in the interior whose "bread" ever since '49,—although eaten with impunity,—has been so eaten only because their hardy old guttapercha stomachs were dough-proof. For the benefit of such, we give the following direction for the makiug of this most important article of daily food, from a leetnre recently delivered by Prof. Horsford, of Cambridge, Mass., who has made a specialty of chemistry as applied to domestic uses:

"Select good, plump, fully ripened, hard-grained wheat. Have it freshly grouud, and not too finely bolted. Prepare the yeast as follows: Boil thoroughly with the skins on, in one quart of water, enough potatoes to make a qnart of mashed potatoes. Peel the boiled potatoes and mash them to fineness; mix intimately with them one pint of flour, and stir the whole to an emulsion with the water in which the potatoes were boiled. Cool the product to 80° (lukewarmuess), and add half a pint of the best baker's yeast, and a tablespooaful of brown sugar. Set aside the mixture at an even temperature of about 80° till it works well, or is in aetive fermeatation. Of this yeast take half a pint to a gallon (seven pounds) of flour, mixed with threo pints of water, or two of water and one of milk, all at the temperature of about 80°, add a little salt, knead thoroughly, and set aside to rise at the temperature mentioned. When it has risen to nearly the full volume for the dough, divido it into loaves, knead again, set it aside at the temperature already named till it attains the full size of the loaf, and place in an oven heated to not less than 450°. Let the loaves of dough be smaller than the tins. Keep them covered with a flat tin plate or stiff paper till the dough is fully raised and the heat carried up to and sometimes maintained throughout tho loaf at 212°, to convert all the stareh to the mucilagiaous or emulsion form aad destroy the ferment. Then remove the cover, and permit the browniug to take place. If tho loaves are large, a higher temperature will be required. Seven pounds of fine flour will make eight loaves of 1¼ pounds each when baked, or four of 2½ pounds each. Such yeast will keep a week in winter, and from two to four days in summer. Bread made with it, in faithful obedience to these instructions, will be good."

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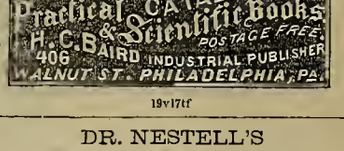

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Altitudes in California.

COMPILED FOR THE MINING AND SCIENTIFIC PRESS, BY C. D. VOY.

The following altitudes above the sea, of important points in California, are on the authority of the State Geological Survey. California is 700 miles long, 200 broad, contains 158,687 square miles, and a population estimated (1868) at 500,000:

Altitude of	*Feet.*
Yreka, Siskiyou co	2,700
Surprise Valley, Siskiyou co	4,680
Mt. Shasta, Siskiyou co	14,440
Mt. Balley, Trinity co	6,357
Mt. Yellow Valley, Trinity co	8,000
Lassen Peak, Shasta co	10,571
Black Butte, Shasta co	9,500
Nolles' Pass, Lassen co	6,074
Quincy, Plumas co	3,127
Pilot Peak, Plumas co	7,605
Beckworth Pass, Plumas co	4,500
Downieville Buttes, Sierrra co	8,800
Clear Lake, Lake co. This beautiful sheet of water is from 2 to 12 miles wide, and 30 miles long.	
Geyser Peak, Sonoma co	3,471
Mt. St. Helena, Sonoma co	4,343
Sacramento, Sacramento co	54
Auburn, Placer co	1,385
Colfax, Placer co	2,448
Dutch Flat, Placer co	3,425
Summit of Sierra	7,042
*Lake Tahoe, boundary of California and Nevada	6,250
Mt. Tamelpais, Marin co	2,600
Mt. Diablo, Contra Costa co	3,876
Mt. Oso, San Joaquin co	3,383
Big Tree Grove, Calaveras co	4,750
Silver Mountain, Alpine co	10,934
Livermore Pass, Alameda co	6,800
Mt. Hamilton, Santa Clara co	4,449
Mt. Bache, Santa Clara co	3,780
Pacheco Peak, Merced co	2,845
Dome Mountain, Mariposa co	8,797
Mt. Hoffman, Mariposa co	10,872
Cathedral Peak, Mariposa co	11,000
Mt. Dana, Mariposa co	13,227
Mono Pass, Mariposa co	10,765
San Carlos Peak, Fresno co	4,977
Bald Mountain, Fresno co	7,936
Mt. Silliman, Fresno co	11,623
Castle Peak, Mono co	13,000
Mt. Braly, Mono co	9,435
†Mono Lake, Mono co	6,454
Mt. Lyell, Mono co	13,217
Dome Mountain, Tulare co	9,825
Mt. Tyndall, Tulare co	14,366
Kaweah Peak, Tulare co	14,000
Mt. Whitney, Tulare co	15,000
Mt. Brewer, Inyo co	13,000
Walker Pass, Kern co	5,300
Tehatchapyah Pass, Keru co	4,020
Tejon Pass, Los Angeles co	4,250
Mt. Pinos, Los Angeles co	7,500
San Francisquito Pass, Los Angeles co	3,437
Mt. Parkinson, Los Angeles co	6,000
Soledad Pass, Los Angeles co	3,164
Cajon Pass, San Bernardino co	4,600
Mt. San Bernardino, San Bernardino co	8,500
San Gorgonia Pass, San Bernardino co	2,800
Warner's Pass, San Diego co	3,780

*This beautiful lake is about 12 miles wide and 21 miles long. It is engulphed between two ridges of mountains, which form on either side some of the highest peaks of the Sierra. The central portion of this lake has been sounded to 1,400 feet.

†This very remarkable alkali lake is sometimes called the Dead Sea of America. It lies 10 miles southwest of the dividing line between California and Nevada, and is about 14 miles long and 9 miles wide. It has never been sounded, but a trial said to have been made with a line of 300 feet failed to reach bottom. By chemical analysis a gallon of the water weighing 8 pounds, was found to contain 1,200 grains of solid matter, consisting principally of chloride of sodium, carbonate of lead, sulphate of soda, borax and silica. The bitter and fatal waters of this lake render it literally a "dead sea," and all its surroundings—wild, gloomy and foreboding—are suggestive of sterility and death. Very large numbers of mineral curiosities abound in the neighborhood of this lake.

TURBINES.—*Eds. Press:*—We notice in your issue of January 16th, an article on "Turbine Water Wheels," stating that the "Jonval, Lind and Tyler turbines (French, California, and New England inventions, respectively) furnish the highest percentage of absolute power in the order named, and are cheap, in proportion to the power furnished, in the reverse order." This statement is correct in the main and most important particular as to the percentage of power, on which point we would call attention to an article in the *Scientific American* of December 23d, entitled, "The Jonval *vs.* the Fourneyron Water Wheel." In reference to the cheapness of the respective wheels, we beg to correct your statement, as the facts are just the opposite—the Jonval wheel being from fifty to one hundred per cent. cheaper than either of the other wheels mentioned. Very respectfully, FULLER & Co.

San Francisco, Feb. 4, 1869.

HISTORY OF GOLD IN NEW ZEALAND.—The islands have produced £11,000,000 of gold a year during three years since the mines were discovered. In 1864, and for years previous, it will be recollected by all who then read the New Zealand papers, there were premiums offered by government, and higher premiums advocated by newspaper correspondents, for the discovery and development of gold mines in that country; a conviction prevailing that gold could be found there in quantities to pay.

Engineering.

RAILROAD BUILDING.—The Central Pacific Railroad Company are surveying a branch line from Ogden City to the southward, through Salt Lake Valley, touching the city of the Saints, Kaysville, Farmington, Centerville, Bountiful, etc. The rumor is revived of the intention of the Union Pacific Company to continue their road into California by the Beckwourth Pass route, in connection with the Oroville and Virginia City Company. The contract has been let for the first section of the California Pacific extension from Davisville to Marysville, and the whole road to the latter point is expected to be finished by August.

The *Bulletin* says: The completion of the the beginning during the present year of Pacific Railroad will liberate considerable labor and capital for the prosecution of local roads in this State, and we may look to see such an era of railroad building as populated and enriched Illinois in the decade following 1850.

THE ENGINEERING DATA OF THE OROVILLE AND VIRGINIA CITY R. R. are as follows:

Distances—Vallejo to Oroville, estimated, 107 miles; Oroville to State line, actual measurement, 134; State line to Lander City at the Big Bend of Humboldt, estimated, 108. Total, 349 miles.

Gradients—Maximum per mile, 66 7-12 feet; average 34 feet.

Elevation—Greatest at Beckwourth's Pass, 4,682 feet.

Estimated Cost of Constructing—The Oroville and Virginia section of this road—made by competent engineers and from actual surveys—from Oroville to Quincy, 77¾ miles, $37,500 per mile. Total $2,915,625.

From Quincy to State line, 56¼ miles at $20,000 per mile, $1,125,000. Total $4,040,625.

Superstructures—Track complete, including 10 miles for turnouts, 144 miles, $1,400,000.

Rolling Stock to Work it—As part of the main Pacific Road, $1,000,000; buildings, shops and fixtures, $400,000. Grand total, $6,840,625.

TELEGRAPH BUILDING IN MEXICO.—The telegraphic wires are now up for the whole length from Manzanillo to Vera Cruz, *via* Colima; Guadalajara and the capital. The other lines to Morelia, Acapulco and the Rio Grande, will be finished before the rainy season sets in.

From Guaymas we hear that the State Government is actively engaged in establishing a telegraph line from said port to the Capital Ures, and that a company is forming there to carry the work out and avail itself of other franchises which the State Legislature has granted.

PROPOSAL TO DREDGE THE SACRAMENTO RIVER.—The *Union* says the Sacramento river is fast filling up with the sand which has been set loose by miners in the mountains, and is brought down by the currents in winter, rendering the river difficult of navigation. It is known that the present bed of the river is many feet higher now than it was 10 or 12 years ago, and this debris is gradually filling up Suisun and the other bays. The evil can only be remedied in one way—says the *Union*—and that is by dredging the river from the debouchment of its two chief affluents—the Feather and Americau—to Suisun Bay.

WATER AT WHITE PINE.—The want of a supply of water will be a great drawback at White Pine in the spring. Although the range of mountains running down to and below Hamilton is full of water, no companies are pushing the work of tunneling. It is thought that water in such supply as must flow when a tunnel reaches a point under these springs would produce a large revenue.

BLASTING OUT THE CORAL REEFS OF MIDWAY ISLAND.—The Senate has added $50,000 to the Naval Appropriation Bill to improve the harbor of Midway Island, which has been surveyed under the direction of Admiral Thatcher, and is to be made a safe refuge for our commerce in the North Pacific. The island belougs to the United States, and is half-way between China and California.

WATER SUPPLY AT VALLEJO.—Three different companies have been organized to furnish Vallejo with fresh water, yet neither has made a move in the matter yet.

White Pine Items.

MINING STOCK OPERATIONS.—A White Pine correspondent of the *Alta* says: Large sales of mining ground continue to be made, and I think the figures *here* are reasonable; but a word of caution to your good people, who cannot come and see for themselves. Every new mining camp is filled with irresponsible men, who get hold of some mines—perhaps very good ones—and put any price upon them that they can, but at a very heavy advance from "first hands." They *bond* mines and take them to your city. No parties here will bond a mine at anything like the cash price; but they are talked into it, and you pay for such useless service. I say useless, because most of the purchasers have friends here, and should certainly take some advice before action. Quite a number of mines have been taken to your city in this way during the past week. Many of your capitalists contribute a few thousand dollars to some agent or representative for the purpose of buying property, and the said representative is a big toad in the puddle while the money lasts. The character of our ores, and the fact that few are at all acquainted with them, have given inexperienced men a good opportunity to compete with those long in the business.

DEPTH OF THE WHITE PINE DEPOSITS.—News has been received from Hamilton that ore has been struck in a tunnel 100 feet below the surface in the Virginia mine, situated on the northern flank of Treasure Hill. The importance of this fact consists in its showing that the mines in that district are probably not merely superficial deposits liable soon to be exhausted.

PORTABLE STEAM POWER.—A portable steam engine on wheels has gone up on the Sacramento boat, *en route* for White Pine, to be used as the motive power for a crushing mill on a small scale.

POPULATION OF WHITE PINE DISTRICT.—A gentleman recently from White Pine estimates the population of that district at 6,000. The population of Treasure City alone is believed to be not less than 3,500.

A COMPANY of sixteen citizens of Gibsonville, Sierra County, have incorporated, and will send Robert Walsh to the White Pine country to prospect.

TELEGRAPH TO WHITE PINE.—Mr. James Gamble, Superintendent of the Western Union Telegraph Co., informs the *Bulletin* that a contract has been let for the telegraph poles for a line from Ruby Valley to White Pine; that the wire is now on the way, and that the line will be in operation in six weeks.

Resources and Developments.

VALLEJO has a population of 5,000.

SAN LEANDRO has four gang-plow manufactories.

A TREE on the ranch of G. N. Sweezy, Yuba County, bore a crop of 100 oranges last year.

THE Stockton *Independent* thinks that California teazle (a kind of burr) is good for carding wool and cotton.

THE citizens of Millville, Tehama County, are actively engaged in organizing and establishing a woolen factory.

SILK GROWING.—I. N. Hoag has shipped four large wool sacks of silk cocoons, weighing 113 pounds, to R. & J. Morton, of San Francisco. The cocoons were those perforated by the moths in their exit, and are used for the manufacture of velvet and mixed goods, and were sold at seventy-five cents a pound.

CONCENTRATION AND SMELTING OF TIN ORES.—A bar of eighty-five pounds of tin, of .97 fineness, from the Temescal ore, has been turned out from Mosheimer's Smelting Works, the work being done in small crucibles. The intention is to crush the ore to such a fineness as to pass through a screen of from 18,000 to 20,000 meshes to the square inch; as it is found that in order to render the reduction of tin ores effectual, they must be crushed to an extreme fineness. After being concentrated at the Union Foundry, the ores are to be smelted at Mosheimer's Smelting Works, for the present.

CHERRIES RIPENED OUTDOORS IN JANUARY.—A city cotemporary mentions the plucking of a fine cluster of ripe cherries, a day or two ago, from a tree in the garden of Otis V. Sawyer, on Hyde street. Volumes in favor of the mildness of the climate of California could not speak more.

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STEAMERS FOR FEBRUARY, 1869.

The following Steamships will be dispatched on dates as given below:

February 6th—GOLDEN AGE.....Capt. E. S. Farnsworth, Connecting with ALASKA, Capt. Cray.

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February 22—SACRAMENTO.....Capt. ——— West, Connecting with HENRY CHAUNCEY, Capt. Connor.

February 27th—MONTANA..... ....Capt Wm. H Hudson: Connecting with ARIZONA, Capt. Maury.

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OPINION OF OTHERS:

EVERY miner in the community should subscribe for the Mining and Scientific Press.—*Grass Valley Union.*

MINING AND SCIENTIFIC PRESS.—This excellent scientific journal has entered upon its eighteenth volume.—*Chico Courant, Jan. 15th.*

THE *Mining and Scientific Press* should have an extensive circulation in every mining community on the Coast.—*Placer Herald, Dec. 19.*

THE MINING AND SCIENTIFIC PRESS has become almost indispensable to the miner and machinist, and is well deserving of the patronage which we are pleased to learn it receives.—*Mariposa Mail, Jan. 10th.*

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THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It has donned a new-style hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th*

THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

TO MINERS.—William H. Murray, traveling agent for the Mining and Scientific Press, published by Dewey & Co., of San Francisco, is in town soliciting subscriptions for that paper. To the intelligent miner, a paper like the *Press* is particularly valuable, keeping him posted on the latest discoveries in reductiou of ores, new machinery, etc.—*Grass Valley National.*

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books. *Nevada Gazette.*

WE CONSIDER THE MINING AND SCIENTIFIC PRESS the most valuable mining and mechanical newspaper issued in the United States. Dewey & Co., publishers, are also solicitors of foreign and American patents and conduct patent cases of every kind. We guarantee that all business confided to them will be carefully attended to, and we further believe that every minor, mechanic, and scientific man should have their valuable paper.—*Auburn Stars and Stripes.*

MINING AND SCIENTIFIC PRESS.—We look upon this paper as one of our most valuable exchanges, in fact it deservedly stands at the head of all publications embracing mining, scientific and mechanical subjects, and contains much miscellaneous matter of interest, and is a gem of neatness. The PRESS is published by Dewey & Co., San Francisco, and at its present low price of five dollars per annum, should be patronized by every one, but more especially by miners, mechanics and inventors who wish to pursue their avocations with intelligence and economy.—*Tidal Wave, Idaho.*

A USEFUL PUBLICATION.—The MINING AND SCIENTIFIC PRESS, published at San Francisco by Dewey & Co., is a publication valuable to all classes and indispensable to miners and inventors—the pateuts for nearly all California inveutions having been secured through the Patent Agency of the proprietors of that paper, and the inventions themselves brought into notice through its columns. We are glad to learn, from Mr. Wm. H. Murray, the traveling agent of the paper, who dropped in upon us Monday evening, that its merits are so well appreciated; and we unhesitatingly commend both the paper and its gentlemanly agent to the confidence and patronage of scientific and practical men of all classes and every occupation.—*Solano Herald.*

THE MINING AND SCIENTIFIC PRESS, of this city, has done us the honor to notice us in their columns, and we feel in duty bound to acknowledge the compliment.

It were fruitless for us to say anything in praise of the MINING AND SCIENTIFIC PRESS. * * * It speaks for itself wherever it goes. Its editors are men of intelligence, ability and honor.

We have had frequeut occasion to have business relations with the pateut agency connected with this establishment, and have had nothing left to desire in regard to it. Fidelity, promptness and courtesy, soon arranged everything for us to our complete satisfaction. Having had frequent delays at Washington while in that city, we have been surprised at the promptitude with which some of our friends obtained their patents through the agency of Messrs. Dewey & Co.—*S. F. Spiritual Light.*

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GRASS VALLEY, Dec. 2, 1868—*Messrs. Dewey & Co:*—Having received the patent for Symons & Co's Tossing and Refining Concentrator, through your Agency, we return our sincere thanks to you for your unrivalled success. Yours, respectfully, SYMONS & HARNY.

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Office Stato Capital Reporter, 42 and 44 J street, Sacramento, Cal., July 15, 1868:

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POSTMASTERS are requested to punctually inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

Mining Notices.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of January, 1869, an assessment of two dollars ($2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary at the office of the Company, No. 327 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of February, 1869, shall be delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. jan16

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of January, 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the seventeenth day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. jan30

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of January, 1869, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 426 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth (5th) day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirtieth (30th) day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees

R. N VAN BRUNT, Secretary.

Office 426 Montgomery street, San Francisco. jan30

North American Wood Preserving Company.
Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the fifteenth day of January, 1869, an assessment of one ($1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 419 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.

Office, 430 Montgomery street, San Francisco. jan16

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Curtis Palmer	148	10	$10 00
William Brown	11	5	5 00
William Brown	232	10	10 00
William Brown	233	10	10 00
William Brown	234	10	10 00
William Brown	35	10	10 00
William Brown	240	3	3 00
William Brown	276	25	25 00
William Brown	277	45	45 00
Brown & Kent	45	10	10 00
Abigail Brown	20	5	5 00
Abigail Brown	207	5	5 00
M Nolan	265	10	10 00
Daniel Davidson, endorsed to James Wilson	46	10	10 00
George Patterson	53	5	5 00
James S S Robinson	56	10	10 00
F M Ellis	66	1	1 00
H D Scott	71	55	55 00
John Sanquet	138	15	15 00
B Curran	not issued	272	10	10 00
B Curran	not issued	253	10	10 00
John Bagnell	77	7	7 00
Matthew Davidson	19	12	12 00
Patrick Carroll	224	10	10 00
P M Wellin	221	5	5 00
Edward Campbell	181	10	10 00
Chas B Montague	120	25	25 00
A J Davis	127	10	10 00
Lott Mulcahy	157	5	5 00
Thomas Fay	158	5	5 00
David M Short	124	10	10 00
Chas Mayer	135	10	10 00
Benjamin C Levy	137	5	5 00
Lazard Godchaux	139	10	10 00
Lazard Godchaux	160	5	5 00
Lazard Godchaux	162	5	5 00
Lazard Godchaux	229	5	5 00
Lazard Godchaux	230	5	5 00
P Cunningham	156	5	5 00
P Cunningham	174	5	5 00
Michael English	182	25	25 00
Frank Mahon	155	25	25 00
Thos McCullough	159	10	10 00
Stephen McGillan	164	5	5 00
Stephen McGillan	165	5	5 00
P J McMahon	170	25	25 00
P J McMahon	183	25	25 00
Jas Barrett...not issued...bnl	189	25	125 00
Elizabeth Curran	194	10	10 00
Elizabeth Curran	195	10	10 00
N C Briggs	209	10	10 00
F H Moore	210	20	20 00
C B Gregory	211	20	20 00
Henry Eno	212	20	20 00
Henry Eno	278	25	25 00
David Lovell	214	10	10 00
Jacob Martenstein	225	1	1 00
M C Shove	264	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Saturday, the twenty-third day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CURTIS PALMER, Secretary.

Office, No. 87 Stevenson street, between First and Second streets, San Francisco. dec24

POSTPONEMENT.—The above sale is hereby postponed unt Saturday, the sixth day of February, 1869, at the sam hour and place. By order of the Board of Trustees.

jan30 CURTIS PALMER, Secretary.

Rattlesnake Mining Company, Brown's Valley, Yuba County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of December, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Agaril, W B	18	44	$340 00
Agard, M F	19	100	750 00
Ansilloni, H	5	6	45 00
Bradley, M	not issued	30	225 00
Bradley, M	not issued	5	37 50
Babb, L H	not issued	25	187 50
Brown, J	6	20	150 00
Beausaeq, A C O de	27	20	150 00
Cohn & Bro	not issued	10	75 00
Cavallier, J B E	3	10	75 00
Cavallier, J B E	25	91	682 50
Courcelle, A	7	46	345 00
Ely, J	not issued	10	75 00
Findley, Thos	26	49	367 50
Fischer, W	9	45	337 50
Gray, C M	not issued	60	450 00
Hawley, W	not issued	39	292 50
Hawley, Mrs S	not issued	6	45 00
Huard, A N	1	210	1575 00
Huard, L H	2	20	15 00
Kelly, M J	13	20	150 00
Lawson, J F	not issued	49	367 50
Lamory, E	11	100	750 00
McAllis & Cordon	14	5	37 50
McAllis & Gordon	15	10	75 00
McAllis & Cordon	16	10	75 00
McAllis & Cordon	17	20	150 00
Mattat, M	4	20	150 00
Noel, A	12	20	150 00
Ruggles, D W	not issued	10	75 00
Smith, J B	not issued	10	75 00
Vittet, J	not issued	5	37 50
Wessels, S C	not issued	10	75 00

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of December, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the eighth day of February, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up stairs, San Francisco. j23

POSTPONEMENT.—The above sale is hereby postponed until Thursday, the eighteenth day of February, 1869, at the same hour and place. By order of the Board of Trustees.

feb6 JOHN F. LOHSE, Secretary.

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of November, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alpheus Bull	2	218	$109 00
E B. Mott, Jr	6	150	75 00
Geo Mohrel	10	10	5 00
Geo Mohrel	11	10	5 00
Geo Mohrel	12	10	5 00
Geo Mohrel	13	5	2 50
Geo Mohrel	14	5	2 50
Silas Garber	19	10	5 00
Jas P Wheeler	30	50	25 00
Jas P Wheeler	31	50	25 00
Jas P Wheeler	32	50	25 00
Jas P Wheeler	33	50	25 00
Jno Vail	34	20	10 00
L J Flint	37	20	10 00
I L Requa	38	50	25 00
I L Requa	39	50	25 00
I L Requa	40	50	25 00
I L Requa	41	50	25 00
J L Van Bokkelen	48	4	2 00
L A Booth	49	50	25 00
L A Booth	50	54	27 00
L A Booth	51	100	50 00
J Biggs		4	2 00
McFarland		16	8 00
Sarah Snyder		32	16 00
N M Baxter		20	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. C. Merrill & Co., auctioneers, No. 204 California street, San Francisco, California, on Saturday, the second day of January, 1869, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

ENOS TAYLOR, Secretary.

Office, No. 226 Clay street, San Francisco. dec19

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the thirteth day of January, 1869, at the same hour and place. By order of the Board of Trustees.

jan9 ENOS TAYLOR, Secretary.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**
1v1 San Francisco.

Patent Rights for Sale.

For Preserving Timber from Decay

The cheapest method for curing Wood.

A. HAMAR'S PATENT.

WOOD PAVEMENT,

MILLER'S PATENT.

S. L. PEREIRA,

3v18 1m **204 Montgomery street, Room 4.**

ELLERY'S PATENT
India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,
Iron, Brick and Wooden Buildings,
SHIPS, STEAMBOATS, STAGES, CARS,
AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

GEO. T. BROMLEY, Agent,
Battery street, corner Jackson,
24v17-3m San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—BY—
WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

GLASGOW
Iron and Metal Importing Company
Nos. 25 and 27 Fremont street,
SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.
21v16-3m W. McKINDLE, Manage.

Removal.

NELSON & DOBLE,
AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,
Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of
Mill Picks, Sledges, Hammers, Picks,
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,
Have removed to **13 and 15 Fremont street,** near Market, San Francisco.
1uv14qr

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.
M. PRAG,
8v13-1y Stove Store, No. 1 Clay street, below Davis.

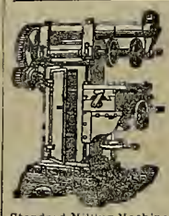
PACIFIC FILE WORKS,
No. 53 Beale Street, bet. Market and Mission,
SAN FRANCISCO.

Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.
2v17-3m **T. G. DURNING & CO**

Postage.—The postage on the MINING AND SCIENTIFIC PRESS to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents

CALIFORNIA TOOL WORKS,
Blacksmith and Machine Shop,
HAS REMOVED
To 143 Beale St., bet. Mission and Howard,
SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Imported Tools, if too hard or soft, re tempered to give satisfaction. REAPER AND MOWING KNIVES; complete sections always on hand, or will be made at the shortest notice. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to ☞ All work warranted. Prices reasonable.
21v17-qy **J. WEICHART, Proprietor.**



Standard Milling Machine.

Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises. Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.
23v16-1y G. H. NOTT, Pres.

PATENT
Boiler Scraper and Tube-Cleaner.

IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Splers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. P. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

Portable Engines.

The Swamscot Co's (warranted equal to any manufactured, may be seen in use in this city), PORTABLE and STATIONARY STEAM FIRE ENGINES, STEAM PUMPS and ROTARY PUMPS, and WOOD WORKING MACHINERY of every description, at Eastern prices. Address W. O. M. BERRY & CO., 511 California street, San Francisco.
26v17-3m

S. F. & S. J. R. R.

E. R. WATERMAN. W. H. TOBEY.

WM. H. TOBEY & CO.,
RAILROAD ADVERTISING AGENCY,
641 Market street,
Between Second and Third streets (up stairs).

FRAMES, CARDS, CIRCULARS, POSTERS,
Etc., put up in all the Cars and Depots of the San Francisco and San Jose Railroad.
Advertise your Business for the Country Trade
4v13tf

The Oakland Daily Transcript
A BIT PAPER.
The Largest Circulation in the County.

Advertisements in the Transcript will reach every part of Alameda County.

RATES FOR ADVERTISING
VERY LOW.

Our Patent Agency.

The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL.
BARTLING & KIMBALL,
BOOKBINDERS,
Paper Rulers and Blank Book Manufacturers.
505 Clay street, (southwest cor. Sansome),
15v12-3m SAN FRANCISCO.

JOHN DANIEL,
(SUCCESSOR TO O. GOR)
MARBLE WORKS,
No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs
Etc., On hand and Manufactured to order.
☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

Palmer's Patent
ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.
JARVIS JEWETT, AGENT.
218 Montgomery Street, San Francisco. 10v8-1m

J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,
(Over W. T. Garratt's Brass Foundry,
S. E. Corner of Mission and Fremont sts.,
6v14tf SAN FRANCISCO.

J. F. PAGES,
SEAL ENGRAVER,
AND LETTER CUTTER,
Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.
6v16

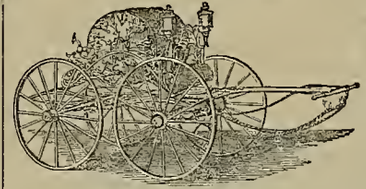
DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,
Manufacturers of all kinds of
Desks and Office Furniture,
717 Market street, near Third.
Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.
18v17qr

Novelty and Usefulness Combined.
Wilson's Prepared Solder
Dispenses with the Soldering Iron.

It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire.

Agency for the Pacific Coast, Room No. 10, No. 423 Washington street, San Francisco. AGENTS WANTED. Address P. O. box 17. 23v17tf

M. M. COOK & SON.



Hose and Belting.

Fire, Hydraulic Hose and Leather Belting, made of the heaviest and best quality of Oak-tanned Slaughter Leather. Also, Fire Buckets, Suction Hose, etc. Our Belting is well stretched, cemented and warranted to run true, and our Hose guaranteed to give satisfaction. A large assortment always on hand and orders promptly filled. No. 801 Battery street, San Francisco. 13v16 3meow

Pacific Chemical Works.

SULPHURIC ETHER,
SPIRITS OF NITRE,
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
FALKENAU & HANKS,
Office and Laboratory, Sixteenth street, between Folsom and Harrison.
LOUIS FALKENAU, State Assayer.
☞ Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

What Blacksmiths Want.

WATSONVILLE, Santa Cruz County, Cal., Jan. 20th, 1869. *Editors Press:*—We want a traveling bellows-maker to come around once a year and repair our bellows. We often have bellows that want fixing and filled with new leather; and to freight the bellows to and from the city, and have them repaired, would not pay, and would cost as much as a new one. We also want a good man to put our stocks and dies in order, or we want duplicates of those we buy. I think if some good mechanic would come along with a small hand planer to put in a vise, and would travel around putting our screw-plates in order, and sharpening saws, etc., he would do well, find plenty to do in each town, and at the same time oblige the blacksmiths in this part of the country. A BLACKSMITH.

NEW IRON SHIPS.—A correspondent of the Loudon *Evening Post* says: "It seems that about half the iron ships lost are lost in their first voyage; chiefly owing to the imperfect adjustment of compasses. The iron of the vessel is counteracted, in its influence on the needle, by strong masses of magnetic iron placed about the compass boxes. But the adjustment of these, in amount, strength, distance from the needle, and direction, is delicate and difficult. A lake near Greenock, is used for adjusting the compasses for the Clyde vessels. They are slowly moved through the various inclinations to the meridian, the variation at each point noted, and the magnets contrived, by a complicated calculation, to counterbalance it. But the variation itself differs with each change of the ships' position, relatively to the horizon, as well as to the meridian. These differences are measured by an ingenious contrivance known as the 'inclinometer,' and corrected by rules empirically deduced from a multitude of observations under all varying circumstances. The record of observations is still kept up on the ships, with a view to perfecting these rules. An old East India captain lately lost a fine new iron steamer on her first voyage, only eight hours out of Glasgow, by utter inability to tell which way was north, his compass being entirely capricious."

STATISTICS OF FLOUR, SAW, SHINGLE, QUARTZ AND WOOLEN MILLS.—There are now in California, as shown by the reports of the County Assessors, 62 steam grist mills, with 205 run of stone, and 67 water, with 116 run of stone, all of which turned out 1,400,413 barrels of flour, and ground 166,780 bushels of corn during the year.

Sawmills: 207 steam-power, and 161 water-power, which produced 220,991,213 feet of lumber, 108,007,000 shingles were made.

There are 360 quartz mills, which crushed 391,480 tons of rock. Water ditches, for mining purposes, with an aggregate length of 11,949¼ miles, and using 711,936 inches of water per day. Water ditches, for irrigating purposes, 720, irrigating 70,588 acres of land.

Woolen mills, six, which used up 3,125,000 pounds of wool—about half the product of the State. Two or three more woolen mills have been completed since the assessors' reports were made.

LECTURE ON PUGET SOUND.—The Hon. Elwood Evans, of Olympia, delivered a lecture at Port Townsend, recently, on "Puget Sound—its Past, its Present, and its Future." To those who knew the great reputation of Mr. Evans, as an historian, —says a correspondent—the long and patient labor and unwearied research which he has bestowed upon his forthcoming work, "The History of Oregon and Washington," a rich intellectual feast was anticipated, nor were they disappointed. The lecture is to be published.

PETRIFACTION OF A HUMAN BODY.—The Troy *Press* gives an account of the recent removal of the body of a man who died some years since in the neighborhood of that city. It was in a perfect state of petrifaction; and was covered with a dry mold, which, when removed, revealed a surface almost as white and pure as marble. The body showed not the least particle of decay. Every feature and lineament was perfectly preserved, and when stood upright it presented the appearance of a finely chiseled statue.

MINING REPORTS.—The annual report for 1868 of the Haywood mine in Amador County, contains the following figures:

Number of tons of quartz worked, 30,794; average yield per ton for the year, $21.56; bullion, $658,378.70; bullion sulphurets sold, $3,500; bullion sulphurets on hand, less cost of working, $2,300—total, $664,-178.70. The company disbursed for expenses in mining, milling, repairs working improvements and putting their works in complete order, etc., $339,251.45, leaving a balance of $340,400 which has been divided among the stockholders. The employés are spoken of as highly efficient and competent.

The Gould & Curry Co., of Virginia City, Nev., reports its annual total receipts at $119,914, derived from ores taken from the upper croppings, from close assorting of the refuse, or the abandoned waste filled into the old chambers of the mine, from materials sold, and sundry other sources. All the labor for extracting said refuse material has been performed under contract, requiring the contractor to keep the mine in good condition, at his own expense, and to pay the company $1 for each and every ton of ore thus extracted.

The disbursements were $301,680. Over one hundred and eighty thousand of which was expended in working and exploring the mine, and over $65,000 was spent upon the large and reservoir mills, and for the reduction of ores at custom mills.

"It is obvious," says the President of the company, Mr. Bull, "that the heaviest portion of the expense of mining is included in the cost of transporting wood, timber, lumber and ores, and as I have stated before, it is beyond a question that at least one-third of this expenditure would be saved by railway transportation."

The Superintendent, David Bowie, says but little has been done in the way of explorations in any part of the company's ground, and that little—made at the sixth station during December, 1867—did not result in the discovery of any new body of ore.

The mill has been closed during the whole year, and many of the stores have been sold; but the reservoir tailings mill has been leased at $500 per month, and 5,000 tons of tailings have been sold at $10 per ton.

OLD PAPER MADE NEW.—A French journalist is said to have discovered a method of restoring printed papers of all kinds to the uses of the press. He plunges the printed sheet, no matter how badly soiled, into an alkaline solution of his own devising, and, in a few moments, the ink, the spots, and the letters disappear and the paper comes out as white as ever.

CALIFORNIA
BUSINESS UNIVERSITY
204 Montgomery Street.

Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
17v17-ayl2p E. P. HEALD, San Francisco.

A NEW PAPER

Will be published on SUNDAY NEXT, November 1st, to be called

THE SPIRITUAL LIGHT.

Published (for the present) Monthly.

It is especially designed to promote the cause of SPIRITUALISM, and assist in the discussion and investigation of all subjects pertinent thereto; which will naturally include Religion, Philosophy, Ethics, Morality and Universal Liberty.

TERMS OF SUBSCRIPTION.—One copy 1 year (invariably in advance) $1; Three copies to one address 1 year, $2 50. For convenience of remission, Greenbacks will (for the present) be received at $1 25 to the dollar in gold—we hope soon to be able to receive them at par.

TERMS OF ADVERTISING.—One square, one insertion, $1 (equal to 10 lines of ordinary brevier type); One square 3 months, $2; One square 1 year, $5; One column, 1 year, $25; do. 6 months, $ 5; do 3 months, $10.

A copy will be sent gratuitously on application to the publisher, to all places where one cannot be seen at the Bookstores. Address GEO. G. W. MORGAN, Editor and Proprietor, 472 Harrison street, between Third and Fourth street; or, 1578 Post Office, San Francisco. 18v17t

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

A WARNING
TO ALL WHO ARE AFFLICTED.

Before the rainy season comes get cured of Rheumatism and Neuralgia, by herbs only. The receipt was given some years ago by an old Indian in New Orleans, and it has never failed to cure all it says. Many have been cured in this city and in Boston, and all say it is the best they have tried. Manufactured by MRS. MARY HIGGINS, Oregon street, two doors west of Drumm. Orders sent by mail or express attended to on receipt of $5 per bottle. 22v17-3m

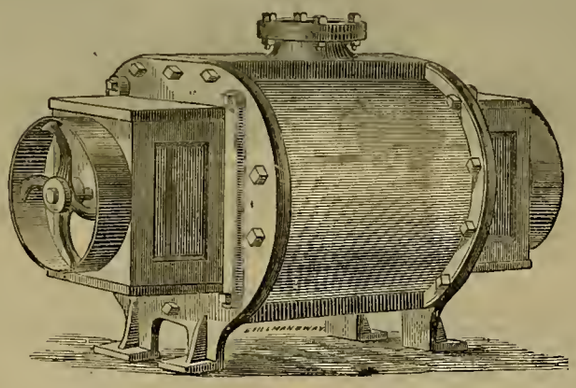
Small Pox.

We have been shown by Wm. Zelner, the best and most convenient and portable apparatus containing Chlorine, for rooms, which we consider the best disinfectant out, and should advise all housekeepers not to be without one. Price $1, complete; to be had, with full directions, at WM. ZELNER'S German Drug Store, 18 Geary street, 25v17-3m

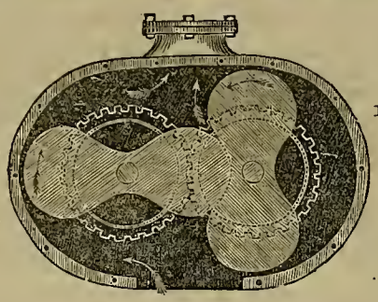
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR Smelting, Foundry, Mining and Steamships.



REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

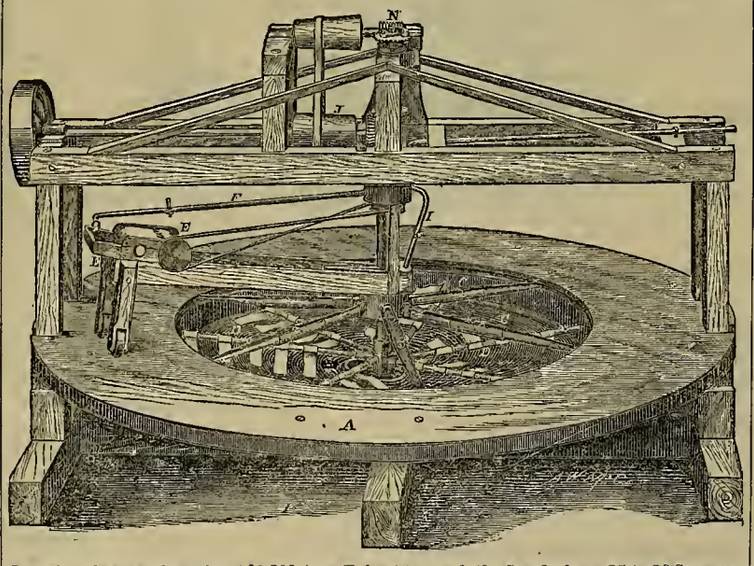
CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP & BARGION,
4v16 3m Globe Iron Works, Stockton, Cal.

PAINE & STEPHENS'
IMPROVED CONCENTRATOR,

For Saving Gold and Silver Sulphurets.



One Machine, costing about $1,300, is sufficient to work the Sands from 25 to 30 Stamps, Less power being required than for any other Machine. The attention of quartz millmen throughout the State is directed to the subjoined certificates, and if they desire they can visit the Amador Mining Co's mill, near Sutter Creek, the Eureka Co's mill at Grass Valley, or the Banner Co's mill near Nevada, and see for themselves.

CERTIFCATES:

GRASS VALLEY, Jan. 4th, 1869.—This is to certify, that we have used the Paine, Stephens & Harry Concentrators for over twelve months. They have given us entire satisfaction, and are the best we ever used. WILLIAM WATT, Supt. Eureka Mine.

This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.

WM. L. TISDALE, Supt. Star Spangled Banner Mine.

NEVADA CITY, Oct. 26, 1868.

Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE, at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.

13v16eow

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Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

No. 348.—Cinnabar, before roasting from, New Almaden; mixed with quartz and dolomite; the country rock being metamorphic magnesian limestone schists, more or less argillaceous, sometimes passing into a steatitic rock or serpentine, which may be derived possibly from the cretaceous shales or sandstones by metamorphic action. From Dr. Mayo, the Superintendent.

No. 349.—The same after roasting, and being divested of its quicksilver.

No. 350.—Quicksilver obtained.

No. 351.—Cinnabar beautifully crystalline, with diamond glance, disseminated through a quartzose magnesian limestone. From the quicksilver mine of Sundius Rabiless in the San Antonio Mountain, 12 miles from San Antonio, Santa Clara County. The mine has been opened to a depth of 90 feet, where the zone of impregnation is three ft. wide. It could be bought for about $60,000.

No. 352.—Napa sulphur, such as is used for the manufacture of powder at Santa Cruz.

No. 353.—Cake of Santa Cruz blasting powder.

No. 354.—Specimens of Santa Cruz limestone, granular and veined.

No. 355.—Santa Clara Valley tobacco, first years' growth being heavy, dark and oily.

No. 356.—Do. third years' growth, being light colored, fragrant, and improved in quality.

No. 357.—Three brands of smoking tobacco, manufactured from the above.

No. 358.—Glass from the San Francisco Glass Works. Presented by C. Newman, being the first flint glass ever made on this coast. It is as good a sample of flint-glass as is made in any State. These works were burnt down some time ago, but will be rebuilt and going at an early day.

No. 359.—Water fuse, triple taped, for igniting the charge in blasting in wet ground, from Tay & Bickford's fuse factory at Alameda.

No. 360.—Alum, in efflorescences, etc., and in considerable masses between crumbling pieces of argillaceous schist found in the Diablo range, easterly of San José. The country rock producing the alum is very brittle and full of fissures, which contain a great deal of this natural alum. The earthquake of Oct. 21st, shook down a large quantity of the rock from a cliff into a stream, and below pieces with which the water came in contact the margin of the stream was marked by a ridge of alum.

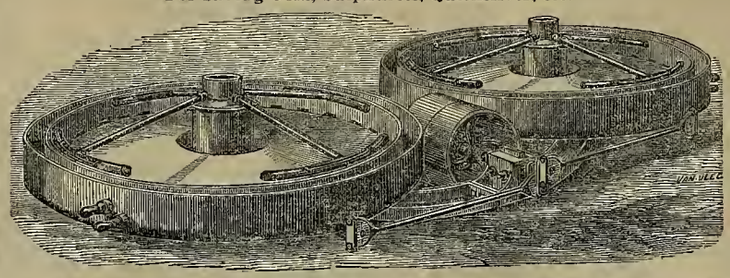
The natural production of alum from argillaceous schists has been observed in many different countries, and has been taken advantage of for the manufacture of alum, especially in Prussia, near Eislehen, where the *alaunschiefer* are manipulated skillfully into a number of valuable chemical products at little cost. Other localities of manufacture are Cape Sable in Maryland; Whithy in Yorkshire; Campsie near Glasgow; and Tolfa near Rome, Italy.

Alum is sulphate of alumina and sulphate of potash, or soda, or magnesia, or iron; making potash, alum, soda alum, etc. The natural chemistry is that the sulphur of iron pyrites or some volcanic source, changes, with oxygen, into sulphuric acid; and it is that which does the work. Which kind of alum this may be, we are unable to state positively without making an analysis, but it is probably potash alum. This is quoted in the last numbers of the *N. Y. Mercantile Journal* at four to six cents a pound wholesale.

The method of obtaining the alum in cases like this, is simply leaching, the mineral alum being soluble in 18 to 20 times its weight of cold water, or in a little more than its weight of boiling water. Judging from the specimens sent, it seems not improbable that quantities could be put into market from this locality at a profit to the producer. The question would depend upon the mount of labor that would have to be done to get the rock into a position to be leached. Presented by W. R. J., of San José.

HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868.

MR. MORGAN HUNGERFORD—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

In future these Pans will be manufactured by GODDARN & Co., at the Pacific Iron Works, San Francisco, which is a guarantee that they will be built in the most substantial manner.

These Pans may be seen at the Pacific Iron Works, First street, near Howard, San Francisco.

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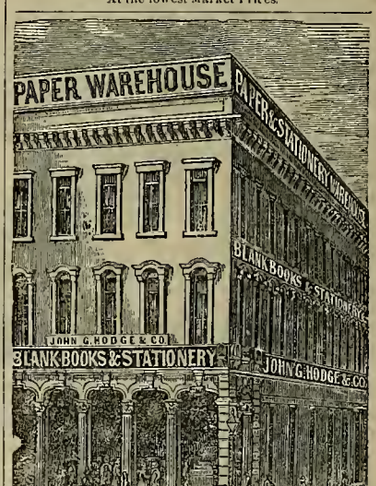
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SAN FRANCISCO, SATURDAY, FEBRUARY 13, 1869.

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SOUTH AFRICAN GOLD FIELDS.—An exploring party is preparing to visit this region. "It will be",—says the Philadelphia *Ledger*,—"composed of well known travelers in Africa, and of assistants skilled in mining gold in California. A photographer will be attached to the party. The expedition will be absent for over a year, and will visit regions where no travelers have as yet been. Mr. Baines, one of the company, has already visited the Transvaal region. He describes the operations of the native goldsmiths as follows: They use a broken earthen pot for a furnace, and a small goat skin for bellows. The crucibles are made from the nests of the mason wasps, and the metal is cast into ingots five or six inches long by half an inch square. The ingots are made into bars by the use of a hammer on a small anvil, weighing three or four pounds. The natives use blowpipes made out of the section of a gun-barrel.

TEST OF TURBINES.—A communication from the Willimantic Linen Company, in the *Scientific American* of December 23d, certifies that pursuant to agreement between the agents of certain improved Fourneyron or peripheral discharge, and Jonval or bottom discharge turbines, a test was made with a view to ascertaining the relative amount of water required with the same fall, to drive the same machinery; and that the former drove 12¼ per cent. more machinery, but in doing so required 39 per cent. more water; thus leaving a result of 23 per cent. in favor of the Jonval wheel. The former was what is known as the Boyden turbine, manufactured by Kilburn & Lincoln of Fall River, Massachusetts; the latter was Collin's Improved Jonval as built at the Troy Turbine Works.

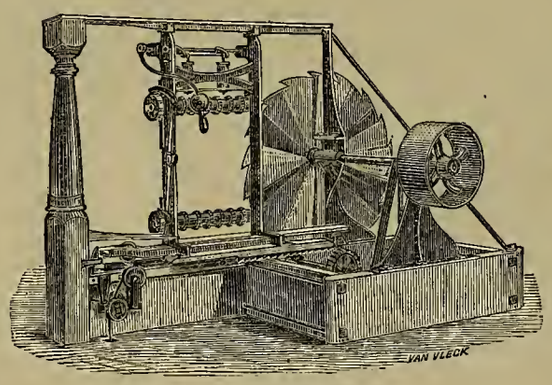
FISHES AND FINS.—In a paper addressed to the Academy of Sciences, M. Gouriet states that a sharply-pointed fin aids a fish to swim very rapidly, especially if it be bent in a scythe-like shape. If the fin be deeply scalloped, the result is the same; and fins that are rounded off generally denote slow swimmers.

ICE BOATING ON THE HUDSON RIVER.—They are having exciting times with their yacht-rigged ice-boats on the Hudson. On one occasion the fleet consisted of eight sail. Races were run,—and a mile a minute was made by several of the vessels.

Huntingdon's Shingle Machine and Shingle Making.

Next to lumbering and sawing, in the manufacture of a marketable raw product out of timber, the making of shingles and of the kind of material presented to the artisan by means of the shingle machine, are of the highest importance, in the amount of work of the kind that is done, and the extent and variety of the field supplied by machines of the kind represented in the engraving.

In principle the shingle machine is nothing else than a small, automatic, constant working sawmill, adapted to a special purpose; the difference between the products of the sawmill and of the shingle machine being that the latter are smaller and thinner, and turned out at the rate of several thousand cuts per hour.



HUNTINGDON'S PATENT SHINGLE MACHINE.

Wood-working is the first of all the industries that minister to, and constitute civilization, and we scarcely realize, any longer, in these days of machinery when the elements are working subserviently to the needs and advancement of mankind, how much we are indebted, in our daily comforts and conveniences, to the ingenious mechanical applications and variety of wood-working machinery. It is in this branch of invention especially that the Americans first won, and have since maintained, their reputation of a superior inventive capacity to that of other and sparsely forest-covered lands.

Everything but carvings, and even those latterly in a degree, can be had now at 'wholesale prices' from establishments whose profits and success are the result purely of the steam wood-working machinery employed. The shingle machine is a good example of the immense economy of doing such work by machinery, as sawn shingles are, at the same time, of the superior quality of the product over shaved shingles, and shakes.

Mr. Huntingdon's machine is one of the many inventions of the practical kind for which California is distinguishing itself. Though it does not claim any great novelty or degree of originality in its operation, the all-sufficient advantage is presented of working smoothly, and so rapidly as to turn out 3,000 shingles per hour, or 30,000 to 40,000 a day, with a 6-horse power engine.

The principal difference between this and other shingle machines, is that in this the block is set upright, and the saw cuts into it sidewise, instead of lengthwise, leaving the saw marks to run with the grain of the wood; which is more favorable to the flow and drainage of water, and consequently to the durability of the shingles; and by this arrangement the carriage has to move forward and backward only 17 inches, or the width of the block, instead of 30, or the length of the same, every time that it cuts off a shingle, enabling it to work quicker than any other machine, to 27 cuts in a minute, each cut being equal to about two shingles. It must be remembered that a "shingle" is a unit four inches in width; and in reckoning up totals it is done by bunches, four to a nominal thousand shingles, as lumber is reckoned by the thousand feet; the length of the shingle being 16 inches. Another feature of this machine is that it is made nearly all of iron, and is therefore very compact, easily shipped, weighing 10,000 pounds, and easily set up. An "edger," to straighten the edges, goes with the machine. To cut off the blocks to a proper length for the shingle machine, a separate steam-power drag saw is made, which does the work of twelve men with the common cross-cut saw. Usually shingle machines are run in connection with sawmills, and in the vicinity of where the wood grows.

The block is placed, by hand, in front of the circular saw, and between the two small cylinders seen in the cut with numerous toothed wheels, which hold it firmly and move it sidewise after every cut, by means of the ratchet attachments seen at the ends. All that is necessary in putting in or taking out a block, is to lift the lever represented, which elevates the upper cylinder.

By changing the setting of the ratchet mentioned, any desirable width can be cut from one-eighth of an inch to three inches. This is done when barrel-heads, box-boards, and the like are wanted.

The motion of the carriage in the direction of the saw, is imparted by the strap which is seen running down from the driving pulley, connecting by means of gearing with straight cogs under the carriage; in the opposite direction by means of weights depending by a cord, represented in the left hand corner as running down through the floor. This automatic motion may be as great or as small as is desired for the purposes in view, and has been made as much as 24 feet.

The wood used for making shingles is chiefly redwood, but also pine, spruce, and fir. They are made in the lumbering districts of Mendocino, Humboldt, San Mateo and Santa Cruz counties, and at Port Orford and Puget Sound; and amounted in 1866, as recorded on the books of the Lumber Dealers' Association, to 25,000,000. But the Huntingdon shingle machine alone turned out during the past year about 50,000,000 shingles, according to the manufacturer's estimates; while the Farris and other machines may have made 10,000,000 more. Two machines at Woodside, near Redwood City, made 13,000,000, and are cutting on an average 200,000 a week.

To make good roofs, especially in snowy countries, shingles are indispensable, as neither shakes nor boards are entirely adapted to the purpose. The price per thousand is $3½ to $4½; the latter having been the price in this market six years ago.

Amongst the parties who are using the Huntingdon machine, are McPherson & Wetherbee, and Pope & Talbot, San Francisco; Hanson & Co., Redwood City; S. P. Pharis, Woodside; Rice & Halliburton, Woodside; Harrington & Co., Pescadero; Burch & Co., Pescadero; R. Walton, C. P. R. R.; A. H. Davis and Sen. Carson. Machines have just been sent to Fort Ross, and to White Pine.

Further particulars may be obtained of the inventor and manufacturer, Mr. F. A. Huntingdon, No. 17 Fremont street.

MYRON ANGEL, the author of several valuable publications on silver mining in Eastern Nevada, has gone to White Pine to take charge editorially of the White Pine *News*. Mr. Angel was editor of the Austin *Reveille* during the palmiest days of that burg, and is a representative Californian in possessing that trait which tends to carry us into the very midst of everything important that is transpiring within our reach. More recently, Mr. Angel has been connected with the State Capitol *Reporter* at Sacramento.

SYMPATHETIC INK.—To make a sympathetic ink, mix lemon and onion juice. Writing made with this on plain white paper, will, when dry, be invisible. But on warming the paper before a fire the lines will appear in brown tints.

PLAYED OUT.—Hypophagy is not "a success" in Paris. Quite the contrary.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Manufactures at Santa Cruz and in Santa Clara Valley.

THE SANTA CRUZ TANNERY.

Editors Press:—I have just been paying a visit to the largest tannery in the State,—the Santa Cruz Tannery of Edmund Jones & Co.,—which is situated about a quarter of a mile from the old Mission, and has heen in constant operation ever since the year 1854. There are seventy-five double lay-aways, exclusive of limes, pools, and handlers. Hides are laid away from three to four months. The capacity of tho yard is 2,000 sides per month. The quantity manufactured last year was over 20,000 sides, the greater part of which was sole leather. Harness leather is made only in small quantities. The uumher of men employed is twenty-one. The California hides, and the bark used, are the best of the kind in the United States for the manufacture of sole leather; and as neither vitriol nor hot liquors are used in this tannery, the sole leather is superior for dureble qualities to any manufactured in the Atlantic States; but in consequeuce of their color being a little red, the prejudices of the trade there are hardly yet overcome. A market is being gradually made, however, for California leather of good quality in New York and Boston, particularly for light weights.

A small market is found in China and Japan, the latter more particularly, for harness leather, the Japanese army being accoutred according to the Europeau methods in infantry and artillery. Although the profits of the trade have been small for a year or so past, the fact that this State exports quite largely of this valuable product, tends to increase to a considerable extent the material prosperity of the country. This tanuery makes a specialty of pump leather for mining pumps, and we call attention, to those interested, to their advertisement in another columu.

I am iudebted to Mr. Joseph Boston, for kindly showing me through the estahlishment.

THE SOQUEL TANNERY

of G. K. & B. T. Porter, is distant from Santa Cruz four miles, and has fifty lay-away vats, and thirty men employed. The kind of work done here is mainly in the manufacture of upper leather. The San Francisco office is at the corner of Sansome aud Bush streets. I am glad to add that the Porters are doing an extensive busiuess.

LIME KILNS.

Three miles from town, on the coast road, are the lime kilns of Davis & Cowell, four iu number, and employing fifty men in the summer time. One of the kilns is a patented arrangement, which burns eighteen barrels a day easily; another is unusually large, being ten feet wide, and thirty feet long, and burning 1,200 barrels at a time. The other two kilns hold 1,000 barrels. All the coopering of the firm is done in the vicinity of the worke, the barrels being made out of redwood. The superinteudent is Mr. Henry Jordan.

Adams & Co., in the same vicinity, have a very fiue location, and thirty men employed. They turned out last year 30,000 barrels of lime.

THE LUMBER, LIME AND SHINGLE TRADE

has been very brisk the past year, and kuowiug ones give it as their opiuion that it will be more so the coming year. Shippers complain that there is need of more wharves. Santa Cruz possesses the largest lime kilns, powder mills, paper mills and tanneries in the State, while its lumber interests are developed, aud its grain aud flour shipments good. Seveu church buildings ornament the place with their spires.

IN SANTA CLARA VALLEY,

the Santa Clara Flour mills of L. Robinson & Co. have four ruu of stoue, running eighteen houre a day, and sixteeu hande employed; turning out flonr at the rate of 125 barrels in twelve hours. The quantity of wheat thet came into this mill between August 21st, 1868, and January 1st, 1869, was 8,400,000 (?) pounds.

THE TOBACCO FACTORY AT GILROY.

Messrs. J. D. Culp & Co. have developed a new industry in California, which promises, from its present and increasing success, to become important. The enterprise was begun in 1860, hy putting in a crop of tobacco on some land three miles from Gilroy, and encouraging farmers around to do the same; and by building a factory in town of 50x150 feet in dimensions. Good crops have been had every year since; and the only had luck encountered was the burning down of the works in 1866, by which the firm lost $12,000. Messrs. Culp & Co. employ twenty-four men. The machinery consists of a 30-horse-power engine; two large cutting mechines, capable of cutting from 3,000 to 10,000 pounds of tobacco per day; and six hydrenlic presses. The building and machinery together cost $10,000.

The farmers around have raised 300,000 pounds of tobecco; last year Culp & Co. raised 10,000 pounds. Raw tobacco is worth ten cents per pound; after it is worked up it is worth from forty ceuts to $1.10 per pound, according to quality.

The average yield por acre is ahout 900 pounds, although it has been known here to produce as high as 1,500 pounds to an acre, which, at the ordinary market value of ten cents per pound, hrings the producer handsome pay for his lahor.

In the Southern States it requires the labor of one man to each five acres to kill the tobacco worm, while in this couutry the insect known as the "yellow jacket," rids the planter of this expense—hunts industriously for the worm—and no sooner finds the game than his fatal sting is introduced and the worm falls lifeless, to satisfy the appetite of the insect—a portiou of which only is devoured.

Messrs. Culp & Co. expect this year to put into market 200,000 pounds.

W. H. M.

[Written for the Mining and Scientific Press.

N. Y. Society of Practical Engineering.

The New York Society of Practical Engineering held its regular fortnightly meeting at the Cooper Institute Building, on Tuesday evening, January 19th; the President, Mr. James Whitney, in the chair.

The paper for the evening on the "Casting and Forging of Metals," was read by Mr. James Harrison, a founder and worker of metals, of New York city. The paper first gave an elaborate view of the many applications of the founder's art to practical purposes in the needs and luxuries of every day life. The railroad and the steamship, the kitchen and the parlor, the anchor aud the watch, were each shown to he similarly dependeut on the skill of the founder and metal worker. In the means of travel we have the powerful locomotive, the iron frame-work of the cars, the ponderous machine of the steamship, etc., as evidences of his skill. Iu domestic life there is the stove, the frame of the piano, the castors of the sofa, the locks and bolts of doors, etc., egaiu remiudiug us of the worker of metals. In agriculture we have the plow, the harrow, the thrashing and the winnowing machine, and many other instruments giving evidence again of the importance of the founder. The writer then proceeding to a description of the process, spoke of the preparation of the mold to receive the metal. This sübject involved the consideration of six distinct points:

First—The preparation of the sand or loam to suit tho different kinds of work. A mold that would resist the pressure of the molten metal in the casting of small pieces, would uot answer in the casting of large pieces. A variation is also needed in different cases, so as to allow of the escape of the air in the mold, and of the gas generated by the coutact of the metal with the cold sand or loam.

Second—Facing or blackening. The substauce used for this purpose depends on the kind of work to be done. Various materials, such as finely-powdered charcoal, plaster of paris, aud dried aud powdered fire-clay, are employed. The facing enables the molder to give his work a smooth finish. Care must be exercised in this connection, however, for if the facing be too thiu the motal will eat through the sand, making the casting rough, while if it is too thick, it stops the pores through which the vent should escape, and the mold is broken. The facing used for small work is not suitahle for large work.

Third—The "vent." By this is meant the escape of the air that is in the space where the melted metal is to go; not only the air, however, but the gas generated by the melted metal coming in contact with the cold sand must also escape. Should the mold be too open, the gas is allowed to rush through too fast, and will tear away some of the material of the mold, and the metal following, the casting will be lost. If, however, the vent does not escape fast enough, the metallic liquid will flutter in the mold until the casting is spoiled from the gas escaping through the surface of the metal. In order to obviate this difficulty, the writer recommended the use of a device which he termed a "riser." This is a round taper hole in the mold filled with a piece of soft clay loaded with a weight proportionel to the weight of the casting. If the gas escaped as fast as generated, *i. e.*, if the mold was made properly, the clay end weight would not move. If the mold had heen made too close, thus preventiug the gas from escaping, the clay and weight would he lifted up and the gas escape. This fixture constituted an easy method for the regulation of the escape of the gas.

Fourth—The gates or runners. These are the inlets hy which the metal is poured into the mold. The common way of simply pouring the metal from a ladle into a duct, which conveys it to the point, is a mode involviug all the disadvantages possible under the circumstances. The process of skimming the dross and slag from the surface of the melted metal as it is poured from the ladle, is always very difficult, and the following device proposed by the writer, is claimed to he a self-skimming runner. The metal is first poured from the ladle into a basin, from which it flows by a gutter to the opposite side of a smaller basin, and forms a current around the second basin, and then ruus to a third yet smaller then the second. A current is also produced here, and ou flowing from this hasin to a mold it has become purified. The explanation of the matter is thought to be that the circular current produced in the hasins causes the dross to accumulate in their centers.

Fifth—The size of the runners. This is also a very important consideration.

Sixth—The heat at which different metals should be poured. This was considered by the writer as the vital part of the art of molding. To the want of proper means for ascertaining the correct heat of the metal at the time of pouring, may be attributed nine-tenths of had castings. A pyrometer, which could he put into the ladle or furnace in such a manner that the instrument would not be injured, would he a very remunerative invention.

Tho mixing of metals was then considered. The fact that some cast iron is very hrittle, although it will in this state resist compression very strongly, was here noticed. Iron that has heen melted over and over again, comes under this category. A malleable iron for machinery castings may be made by mixing in the furnace as many different kinds of iron as possible. In most cases, iron melted in a cupola is not as good as iron remelted in a furnace. The quality of the iron is also affected by the quality of the fuel, and even the state of the weather. The blest had also a great influence upon the metal. The writer emphatically recommended that large castings, such as columns, shafting, etc., ehould be made hollow, and that the center should be allowed to cool first.

The casting of bells was spoken of in conclusion, and an instrument of music to he played in the same manner as a piano, was described. The tones are to he produced by the vibrations of bells of all sizes. This instrument, which was regarded as an important coutribution of the "founder artist" to the fine arts, is to have a range of seven and a half octaves.

The paper was listened to with evident interest, and at its conclusiou a discussion took place concerning the subject, after which the Society adjourned to meet again in two weeks.

Winter Visit to the Yosemite.—A party left Mariposa last week, with the intentiou of payiug a winter visit to the Yosemite Valley. They succeeded in reaching the South Fork of the Merced, when they ahaudoued the attempt.

Alpine County Items.—Mr. Chalmers, of the Imperial Silver Quarries Company writes, under date of February 5th:

I expect to run fifty-nine feet more in the trachytic tufa, end fifty feet in porphyry, before I reach my first ledge. Thanks for your insertion of my letter in reply to your Boise correspondent.

My friend Mr. Coulter is driving his Mt. Bullion tunnel, on the other side of the river, as fast as he can, and so em I, night and day, with as good a team as can be found in Alpine.

The Morning Star have erected excellent hoisting works, and are pushing down their shaft rapidly.

The Monitor Consolidated are busy with their mill, which they expect soon to have in working order.

The Scheuectady Company, better known as the Tarshish, are, I am informed, to commence work again vigoronely next month.

The Globe Company, in the same cañon, are driving their tunnel with all speed.

The Michigan Company, claiming to own an extension of the Tershish, but which is denied, are also at work on good looking ground.

The Forest Belt Company stopped work on the 16th ultimo.

Mr. J. P. Ray is busy on his Mountain cleim.

We have about twelve inches of snow here, and two feet at Silver Mountain, seven miles higher up.

Nevada Mining Patents.—A letter from Land Commissioner Wilson to Senator Stewart of Nevada, states that tho returns of survey for sixty claims have been received from the Surveyor General of Nevada; but in forty-four of these cases the reports, which the law makes, with the survey, a basis of patent, have not yet been received from the District Land Officers. Of the sixteen cases in which these have been received from Registers and Receivers, there are four in which adverse interests are asserted, determinable only in the local courts. Of the remaining twelve, patents have been prepared for the North Star, the Utah and the Knickerhocker gold and silver mining claims; while the Hale & Norcross claim, with several others, are now in hands for patenting.

"To enable the Executive to administer the law with as little disturbance as possible of the local miuing regulations and customs, and secure the ends of justice, it would be proper," says the Commissioner, "for each claimant to file, with his application, some appropriate evidence that he is the *bona fide* holder of a certain number of original claims, according to mining customs. All necessary testimony may be furnished in the form of affidavits and certificates, to obviate the inconvenience and expense of taking witnesses to the land offices, frequently at great distances from the premisee claimed."

How to Stop Oil Fires.—A correspondent of the Rochester *Union* writes from Titueville, Pa.: "Allow me to suggest how a crude oil fire may he managed, for with the large amount daily passing through your city on cars, some day you may have one. Keep the water away from it. As the burning fluid will, of course, run, the first thing, and the great thing, is to dam it. Anything will do; a board stuck across the gutter or wherever the oil may be running, will answer until it can be secured with mud. Then make a hole near the bottom of the dam, and if a pipe is handy, put it in and allow the oil to run off. This oil will not be on fire, as the flame always lies on the surface. When the oil is lowered so that the hole or pipe would soon be exposed, stop up the opening, else the flame will follow. Then let the oil that may be left burn at its pleasure. The advantage of a pipe or tube consists in carrying tho saved oil so far from the burning mass that the gas from the oil may not ignite from the flame. If water should be thrown on the burning oil, its only effect is to bear the flaming fury onwards whithersoever the water bears it, into cellars, stores, and —ell over."

Metric Standards.—The Superintendent of the Coast Survey, in a letter to Secretary McCulloch, says fifty sets of metric standards of length are in process of construction. The Superintendent recommends the appropriation of $20,000 for the construction of metric standards to be furnished each State, according to the Act of July 28th, 1866. The reason for constructing fifty sets is to have enough to supply future States.

Mechanical.

ROPE-BORING A CHINESE INVENTION.—Mr. Warrington Smyth, in a recent lecture at the Royal School of Mines, said: "A plan of boring now much employed, and which we owe to the Chinese, is that with ropes instead of rigid rods. French missionaries in the 17th century had observed that the Chinese had methods of boring to enormous depths. Father Imbert, having made a communication to the French Academy, to the effect that the Chinese borers had attained a depth of 3,000 feet, the statement was discredited. Eventually travelers established the fact; and now it is a matter of discussion whether it is not a method which will compare well with any of the more modern ones. The ropes used by the Chinese are made of strips of bamboo, and those of England are the ordinary hempen or wire-ropes. In consequence of the greater elasticity of ropes, it becomes necessary to give a longer stroke at the top, so that for a stroke of ten feet at the bottom it is necessary to give one of twenty feet at the top. The tool used ranges from 3 cwts. to half a ton. The Chinese employ either our common spring pole, or a rope passed round an enormous cylinder fifty feet in diameter. It was by means of this cylinder that the missionaries ascertained the depth of the borings. They took the circumference of the drum, and found that the rope went sixty-two times around it. This method of boring seems to possess such advantages that at first sight it seems wonderful that it is not universally employed, but it has many drawbacks. Among these are the occasional breaking of the rope, and the consequent impossibility of withdrawing the tool,—and the difficulty of preserving the perpendicularity of the hole, in case of a change in the hardness of the beds which are passed through."

LUBRICATING OILS.—*Peasc's Oil Circular* says first-class oils are more in demand. From 30 to 50 per cent. of power is lost for lack of knowledge in reference to the laws of friction and the effects of heat and pressure upon the oils used. Thousands of dollars are annually saved by those railroad managers who give the subject proper attention. "There is no occasion for a hot journal on any road under ordinary circumstances, if proper oils are used. There is no occasion for cutting of journals and destruction of valve-seats, if a little thought would only be given to the subject. The wonderful chemical effect of some of the poor cheap oils upon the iron surfaces and journals of some of the roads is often overlooked. Has it ever occurred to railroad men that the use of oils of strong acid reaction has a tendency to weaken the strength of the boiler itself, as they have the power to cut and destroy the bolts of the steam chest and cylinder?"

BLAST PIPES.—The diameter and position of the pipe, the diameter of the chimney, and the size of the fire-box, tubes and smoke-box, are all concerned in the effect produced. According to investigations by Mr. D. K. Clark and others, it has been shown that the vacuum in the smoke-box is about seven-tenths of the blast pressure; that the vacuum in the fire-box is from one-third to one-half that in the smoke-box; that the best proportions of the chimney and other parts are those which enable a given draught to be produced with the greatest diameter of blast-pipe, because the greater the diameter the less is the back pressure produced by the resistance of the orifice; and that the same proportions are best at all rates of expansion and at all speeds.—*American Artisan.*

THE STEAM HAMMER.—The French claim the invention of the steam hammer for M. Mourdon, who took out a patent in April, 1842,—whereas Mr. Nasmyth, they say, did not take out his patent in England until June of the same year;—having, moreover, visited the iron works of *Le Creusot*, Burgundy, between these two months.

Morton's Ejector Condenser.

The London *Artizan* for January contains a paper recently read before the Institute of Scottish Engineers by Prof. Rankine, giving an account of experiments made by him with this condenser. We quote a portion:

"The principal parts of the apparatus may be thus described: The cold water passes from the tank to a conoidal nozzle; the area of the orifice of that nozzle is about equal to that of the injection sluice of a common condenser suited for the same engine; that is to say, about 1-250th part of the collective area of pistons. Enveloping the cold water nozzles are a second and a third nozzle of nearly similar figure; these bring the exhaust steam from the two cylinders respectively. The middle nozzle has an orifice a little larger than that of the innermost, or cold water nozzle; the outermost nozzle ends in a throat or contracted vein little larger still, beyond which is a gradually widening, trumpet-shaped mouthpiece, leading to a pipe which ends at the hot-well. The condensation of the steam takes place in the interval between the orifice of the cold water nozzle and the throat of the outermost nozzle.

"The principle of the invention may be described as follows: In every injection condenser the cold water rushes into the vacuum with a velocity of 43 or 44 feet per second. The exhaust steam rushes from the cylinders into the condenser with a velocity which is many times greater than that of the water. In the common condenser those rapid motions of the water and of the steam are completely checked, and their energy is wasted in agitating the fluids in the condenser, and ultimately in producing heat; and hence it becomes necessary to use an air pump in order to extract the water, air and uncondensed steam from the condenser. The power expended in working a well-proportioned and well-constructed air pump is known by experiment to be equal to that which would overcome a back pressure on the steam piston of from ⅛ to ¾ lb. on each square inch of its area, or on an average about 0·6 lb. on the square inch; and that amount of power is lost through the wasting of the energy with which the jets of water and steam rush into the condenser. In the ejector condenser the motion of those jets meets with no interruption; and its energy is found to be sufficient, without any assistance from pumps, to carry all the water, air and uncondensed steam (if any) completely out of the condenser and into the hot-well, and thus to save the power which would be required to drive an air pump."

BRONZING IRON CASTINGS.—The delicate Berlin iron castings are bronzed for their better preservation against rust, by means of a peculiar paint, of which ferro-cyanide of copper forms the basis. When an article has been coated with this paint, and before it is quite dry, if dusted over with copper bronze powder and allowed to dry thoroughly, the effect will be that of bright copper after being polished. A green bronze tint is produced by washing with a solution of acetate of copper. When perfectly dry, the higher parts of the casting must be rubbed with a piece of clean rag to bring out the brown copper color; it will then appear like a bronze that has become green by age. If the bright copper-colored bronze above mentioned be brushed over with black lead it will produce the brown bronze. Yellow or pale bronze, is obtained by using yellow bronze, or brass powder, instead of copper powder.

THE FIRST LOCOMOTIVE IN AMERICA.—The "Old Ironsides," built in Philadelphia in 1832, by M. Baldwin, from a draft by Rufus Tyler, had wooden wheels with broad rims and thick tires,—the flange being bolted on the side. She ran a mile an hour. The tender was placed in front, in order to keep the two light wheels of the engine on the track. The wheels finally went to pieces, and were replaced by iron ones. The engine is still in existence.

WIRE ROPE.—At the Havre Exhibition, the wire rope of Scott & Co. was awarded the prize medal. "A piece of 4-inch steel wire rope stood the enormous strain of forty tons, and slipped through the splice without breaking,"—says a London correspondent.

Scientific Miscellany.

Chemical Geology of California Gold Fields.

Silliman's Journal for January, has an abstract of J. Arthur Phillip's "Notes" upon this subject. The general conclusions of the author are here given:

a. Quartz veins have generally been produced by the slow deposition from aqueous solutions of silica on the surfaces of the enclosing fissures.

b. From the general parallelisms with its walls of the planes of any fragments of the enclosing rock which may have become imbedded in a vein, it is to be inferred that they were mechanically removed by the growth of the several layers to which they adhered, and that a subsequent deposition of quartz took place between them and the rock from which they had become detached. In this way were introduced the masses of rock known as "horses."

c. The formation of quartz veins is due to hydrothermal agencies, of which evidences are still to be found in the hot springs and recent metalliferous veins met with in various parts of the Pacific coast.

d. From the variable temperatures at which the vacuities in their fluid-cavities become filled, it may be inferred that they are the result of an intermittent action, and that the fissures were sometimes traversed by currents of hot water, whilst at others they gave off aqueous vapor or gaseous exhalations. This is precisely what is now taking place at Steamboat Springs, where the formation of a vein is in progress, and from which currents of boiling water are often poured forth, whilst at other times the fissures give off currents of steam and heated gases only.

e. That gold may be deposited from the same solutions which gave rise to the formation of the enclosing quartz, appears evident from the presence of that metal in pyrites enclosed in silicious incrustations, as well as from the fact of large quantities of gold having been found in the interior of the stems of trees, which in deep diggings are often converted into pyrites.

f. The constant presence of iron pyrites in auriferous veins, and when so occurring its invariably containing a certain amount of gold, suggests the probability of this sulphid being in some way necessarily connected with the solvent by which the precious metal was held in solution. It has been shown that finely divided gold is soluble in the sesquichloride of iron and, more sparingly, in the sesquisulphate of that metal. It is also well known that iron pyrites sometimes results from the action of reducing agents on the sulphates of that metal. If, therefore, sulphate of iron, in a solution containing gold, should become transformed by the action of a reducing agent into pyrites, the gold at the same time being reduced to the metallic state, would probably be found enclosed in the resulting crystals of that mineral.

g. The silica and other substances forming the cementing material of the ancient auriferous river beds have probably been slowly deposited at a low temperature.

TO DETECT ATMOSPHERIC AIR IN COAL GAS.—Dr. Werner, of Breslau, gives the following method: Ten parts by weight of anhydrous sulphate of protoxide of manganese are put into a two-necked Woulf bottle, dissolved in twenty parts of warm water. To this is added a solution of ten parts by weight of tartrate of potassa and soda (Rochelle salt), dissolved in sixty parts of water; the thorough mixing of the fluids is promoted by shaking of the bottle; after this there is added a quantity of a solution of caustic potash sufficient to render the fluid quite clear; immediately after this corks, perforated with tightly-fitting glass tubes, are placed in the necks of the bottle, which should be entirely filled with the fluid. One of the tubes—the inlet-tube for the gas to be tested—should just dip a little under the upper level of the fluid; the outlet tube should only reach half-way the perforation of the cork. A very slow current of gas is now made to pass through the fluid, and kept going for at least a quarter and at most one full hour. In case the gas is quite free from atmospheric air, the fluid in the bottle will remain quite clear; if traces of air are present, a faint coloration of the liquid will soon become apparent; with a larger proportion of air the fluid will soon be rendered first light-brown colored, and afterward intensely black.

EVOLUTION OF THE NORTH AMERICAN CONTINENT.—We condense a part of Prof. Hall's recent lecture upon this subject before the American Institute:

"In the formation of the continent, the material composing it have been derived from the breaking down of pre-existing materials transported and deposited along certain lines, or spread out in mid-ocean and there accumulating uniformly. The inequalities upon the surface of the country are not due to any special action along these lines of elevation. Those mountain ranges, whether the Rocky Mountains of the West, the Appalachian chain of the East, or any other chain of mountains, so far as we know, are not due to any action or any forces along those lines, but only to the greater currents in the bed of the ocean near those lines. Everywhere the same law has prevailed. The transporting power of the ocean has deposited in the line of its currents larger quantities of material. The elevation has been a continental one, and not the elevation of a mountain or chain of mountains. The elevation of the eastern portion of the North American Continent has nothing to do with the mountain change constituting a portion of the continental elevation. Going back, then, step by step, from the more recent to the earliest times in relation to which we have any evidence whatever, we have no proof that the action of the interior of our globe has produced any of the great features of the globe. This idea of a great primary nucleus is only theoretical. It has not in it anything tangible. The earliest rocks of which we have any knowledge were deposited by the ocean under conditions similar to those which now exist."

THE VOLTAIC ARC.—The bluish space between the brilliantly incandescent charcoal points which give the electric light,—curved in form when the points are in a horizontal line, owing to ascending currents of heated air, and hence called the voltaic arc,—is the route taken by the electric current in passing from one of the points to the other. What is its nature? It is carbon in some form, but what form? Fine dust, vapor or gas? In an article by F. P. Le Roux, in the *Chemical News*, the writer says that recent experiments of his have led to the belief that it is evolved from the positive pole; and that it is due to a special source of heat at that point, hitherto unexplained. We quote a portion of the article: "The positive charcoal is considerably more luminous than the other, and its incandescence of longer duration. I am even inclined to believe that the negative charcoal is heated almost entirely by the radiation of heat from the positive charcoal on one hand and the arc on the other, and by the heat proceeding from the condensation of the matter conveyed by the latter. I have made an experiment which will show that the heating of the positive pole is owing to a special cause, the seat of which is the exact point where the voltaic arc joins the charcoal. The experiment consists in this: The charcoal electrodes are first brought into contact in the ordinary manner, and then separated so as to produce a very short arc of only a small fraction of a millimeter, which is interrupted at the end of some seconds; the positive electrode will then be found to remain incandescent for some time, whilst the extremity of the negative electrode will be scarcely red."

GALENA IN THE LABORATORY.—M. F. Muck states that crystallized cubes of galena are obtained by the action of HS on hot solutions, strongly acid, of nitrate of lead, the hotter and more acid the better. Even solutions nearly neutral, if partially precipitated, so as to render them acid, afterwards yield crystals. Precipitates from the acetate and chloride of lead are wholly amorphous. Becquerel, de Senarmont, Bischoff, Brush of Yale College, and others, have already obtained galena in the wet way. It is stated that Flach, by placing a stick of brimstone in an alkaline solution of oxide of lead, obtained,—after some years,—deposits, both on the stick itself and on the walls of the vessel, covered with small cubical crystals of galena, recognizable without a magnifier.—*Prof. Wurtz—Gas Light Journal.*

SOLAR HEAT UTILIZED.—Prof. Mouchot, of Tours, France, announces a work upon this subject, soon to be in press. In 1864, Prof. M. constructed a small steam engine operated by means of a "solar boiler;" and he has since contrived various pieces of apparatus, on the same principle, for cooking, distilling, etc.

Character of the White Pine Ore Deposits.

The following from Mr. Albert S. Evans' judiciously-sifted and very useful notes, may assist those who have felt themselves under the disadvantage of possessing limited data, in arriving at conclusions satisfactory to themselves:

TRUE VEINS.

When the writer visited the district in November it was still an open question whether there was such a thing as a true fissure ledge to be found there; many—the writer among the number—inclining to the belief that *all* the mineral was in merely horizontal deposits of sedimentary origin, and their permanency a matter of great doubt. Candor compels a full and unqualified admission of the falsity of such conclusion after a second and more minute examination made since the mines were more thoroughly opened, and recent and important developments have been made.

That there are well defined, genuine metal-bearing, perpendicular fissure ledges in the White Pine District, is no longer a matter of question; and that fact once positively established, as it now is, all doubt of these mines lasting for years under any system of working may be set at rest once and forever. Probably nine-tenths of all the claims located in the district are on horizontal deposits; but real fissure ledges have been found there nevertheless.

SOUTHERN SLOPE OF TREASURE HILL.

The most perfectly defined wall rock which is to be seen in any mine visited by the writer is found at the California, on the southern slope of Treasure Hill, some 1,500 feet below its summit, and only about half a mile east of the town of Silver Springs. This mine has been but imperfectly opened, but enough has been done to show that the ledge is of great thickness, and that it runs down deep into the bowels of the earth. The open cut across the ledge shows ore in abundance in a concentrated vein, which is from eight to twelve feet in thickness at least—the northern, or foot wall, not having been reached as yet. The ore runs from $100 up into the thousands per ton, rich chlorides being found with the lower grade conglomerate rock. The ledge runs nearly due east and west, and pitches out of or away from the hill southwards at an angle of say 15 or 20 degrees, the banging wall of bastard slate being as well defined as any to be found in any mine on the continent.

NORTHERN SLOPE OF TREASURE HILL.

Returning from the southern end of Treasure Hill toward the northern, we again come upon defined ledges. Treasure Peak is the name given to the bold crest of Treasure Hill directly north of Treasure City and east of the road to Hamilton. On the southern edge of this peak or crest is the Hidden Treasure mine, with its extensions. This mine—or one title to it: there are conflicting claims—was recently sold for $200,000, apparently a very low figure. The first ore found here was in a large undefined mass, and the existence of a defined ledge was a matter of doubt, but recently immensely rich rock held together by horn silver has been struck in seams pitching into the hill, and the deposit is assuming more and more the form of a ledge. Following around the abrupt eastern face of the hill in the strata of dolomite, which here crop out sharp and bare, is found a more or less broken line of deposits, apparently the outcropping of the same ledge or deposit on which are located the two Hidden Treasure extensions, Morning Star, Hunt & Drynen, Rough & Ready, Laynes & Murphy, Mammoth, Oriental, Green Above the Red, Virginia, and other claims, the latter being well down the hill towards Hamilton. Descending the hill towards Hamilton the ore becomes somewhat more refractory in character, the purest metal as a rule being found on the top of the hill, or towards the south in the direction of the Eberhardt.

DEPTH.

We have thus defined ledges at the northern and southern ends of Treasure Hill. A thousand shafts and cuts sunk or run in the intervening ground, the majority of which have struck metal in some quantity, demonstrate that Treasure Hill, for a space of at least three miles north and south, and two east and west, is everywhere metalliferous at some depth; the only question is whether you strike the metal at ten feet or a thousand.

Is there now any chance for doubt of the permanency of the Treasure Hill mines? In the opinion of the writer, who but recently thought differently,—*none whatever.*

HORIZONTAL AND VERTICAL DEPOSITS.

Old miners in the White Pine District, among them Dr. E. X. Willard, of the Keystone, now incline to the theory that there are two distinct classes of metalliferous deposits or veins in White Pine District. The first in the form of horizontal deposits, probably of sedimentary origin, lying between the strata of bastard slate and dolomite or limestone, and pitching westward from the eastern edge of Treasure Hill; and the second, and more permanent, in the form of true fissure veins, ledges or lodes, standing at or near the perpendicular in the center of the hill, and pitching outwards at the north and south. These ledges cut directly through the horizontal deposits from east to west, and it is at the point of intersection of the two in every case that the richest and largest deposits of chloride, horn silver and other immensely valuable forms and combinations of the precious metal are to be found. The recent developments in the Eberhardt and Keystone, and other mines, in less degree, go far to prove the entire correctness and reliability of this new theory.

THE EBERHARDT IN THE SOUTHERN SLOPE.

The Eberhardt and Keystone—first located as separate claims, having been shown to be identical, being enclosed between parallel walls running across Treasure Hill east and west, have been, by mutual consent of holders, consolidated, the agreement taking effect February 1st, 1869—will henceforth be worked by one company, which will soon be incorporated, with an office in San Francisco. The Richmond claim, which runs into the Eberhardt from the southeast, having been defeated, after a warmly contested trial, at Austin, and the Blue Bell and Grey Eagle absorbed in the Eberhardt title, there is now a clear field before the company, and work, which has been going on but very slowly for some months, will again be pushed ahead with vigor. Visiting the Eberhardt last week with the foreman of the company, John Bicknell, Esq., the writer went through the whole underground works, and was politely shown all points of interest. There are now fairly defined parallel north and south walls running westward into the hill. The south wall commences just below the old Blue Bell shaft, and forms the southern boundary of the Eberhardt, while the north wall forms the northern boundary of the Keystone ground, and both pitch slightly to the northward as they descend. The space between these walls is 183 feet from north to south, and a careful examination in the drifts, made step by step with the aid of lighted candles, and with hammers and picks, enables the writer to say with positiveness that the deposit of silver of wonderful richness is *unbroken from one to the other.* There is not a foot between the two walls where ore worth $100 to $20,000 per ton cannot be thrown down with a pick and gad. Marks of the pick in solid silver could be seen all along the sides of the chamber, and in one place we noticed where an iron gad had been driven into the soft metal to a depth of four inches, and withdrawn, without even cracking the surface of the ledge. The Blue Bell shaft was then down 120 feet from the surface, close alongside the south wall, into and through which it cuts at 100 feet depth. To the point of 100 feet there is ore nearly all the way down, a "horse" occurring at 40 feet. Beyond the point where the vertical shaft cuts through the south wall, no ore has been discovered, but at about the same depth in the Keystone ground, just south of the north wall, exceedingly rich ore has just been struck. How far the walls now being followed run westward into the hill cannot of course be told at present, but the amount of treasure which it is already evident they inclose is beyond anything like sober calculation. The ore from the Keystone and the Eberhardt ground—now in one mine—already reduced to bullion, or extracted ready for reduction, will approximate two millions of dollars, and there is no indication of a failing in quality or quantity at any point. The cash value of the mine as it now stands we will not attempt to estimate; it would take too many figures.

AUSTIN OUTFLANKED, BUT NOT "GONE IN."—The *Reveille* says: In spite of the facts which smart people chuck at us constantly—facts resulting from stock-jobbing, speculation, mismanagement, inexperience and stupidity—we know that Lander Hill contains veins of the noblest sulphuret ore, sufficient to maintain a population of ten to twenty thousand persons. This is not an idle statement. Instead of croaking about White Pine—which has done us no real evil, but is destined to work us much positive good—let our citizens put their shoulders to the wheel, instead of crying to vain gods for help.

Engineering.

BUILDING OF THE HONDURAS INTER-OCEANIC RAILROAD.—This work, it seems, is so well under way, and so definitely progressing, that we may count upon its early completion as a certainty. Being entirely in the hands of European capitalists, the engineering operations thus far reported have been undervalued in their importance to the Pacific coast. It is claimed that the completion of the Honduras Railroad will effectually terminate the carrying of freight and passengers between New York and California via Panama, because that route saves upward of twelve hundred miles of distance and seven days' time, passes through a healthy country, and possesses what Panama does not—deep, safe and capacious harbors at the termini of the road, where the largest steamship can tie up securely at the wharves. A letter received in this city from M. Lefevre, Trustee for the Honduras Government Railway Loan, dated in London, states that the "plant" and materials for the first section of the line from Puerto Caballos, on the Atlantic, to Santiago, have long since reached their destination, and that the work is now being vigorously prosecuted by Messrs. Waring Brothers and McCandlish, the contractors. Messrs. Bischoffsheim and Goldschmidt, bankers of London and Paris, who are the agents and administrators of the Honduras loan, are at the head of the enterprise, and London, Paris and Amsterdam capital is subscribed to build and complete the road. It will be in operation, unless contracts and promises are violated, in three years from June last, or in 1871. The Pacific terminus is the Gulf of Fonseca, and the total distance is only about 170 miles—a mere trifle in these days, especially when we consider the importance of the enterprise.

BLASTING OUT BLOSSOM ROCK.—Lieut. Huer's plan for blasting out Blossom Rock, in the ship channel of San Francisco, will, it appears, probably be adopted. Lieut. Huer proposed that a raft be floated over the spot, and a number of adjustable iron rods or supports be let down so as to stand on the rock, to support and steady the raft, like the legs of a table, their length varying according to the irregularities of the surface of the rock. In this manner a steady support would be secured for any number of men at once, while working at drilling holes, and the same number of blasts could then be let off simultaneously. As soon as the holes are bored, a charge of nitro-glycerine is to be poured down through an iron tube; being heavier than water, this would sink to the bottom of the hole. Explosive cartridges being next inserted, and connected by means of wires with an electric battery, the raft is to be floated away to a little distance, while the entire number of blasts are discharged by the electric spark. The same operation would be repeated, after removing the loose materials, until the required depth should be attained. According to Lieut. Heur's estimates, the work could be accomplished in this manner for $60,000; while by any other method it would cost five times that amount, or $300,000. By reference to the Congressional reports, it will be seen that an appropriation has been included for blasting out Blossom Rock.

THE HIGHLAND SUSPENSION BRIDGE across the Hudson, between Anthony's nose and Fort Clinton, is being undertaken in earnest, and will be the most stupendous engineering work of the kind in the world. The total length is 2,449 feet; length between the towers, 1,665 feet; estimated cost $3,500,000 to $4,000,000.

Two new pile-drivers have been sent out, with the usual material, for the Western Pacific Railroad, to be used in the construction of the bridge over the Cosumnes. The tracklayers are now in the immediate vicinity of that stream.

THE C. P. R. R. PIONEER AND CONSTRUCTION TRAIN is described by a correspondent of the Santa Clara *Union*, as follows:

The pioneer train is composed of 10 or 11 large cars. They look very much like houses on wheels. In the forward car is Mr. Strowbridge's residence and office. A battery is on the car, and an operator to work it. The train moves on to the end of track each and every noon and night, when a wire is attached and the circuit made. In the back cars of this train are eating or sleeping accommodations for the 500 men who compose the vanguard of this modern army. Attached to the train are three or four platform cars, on which carpenters, with shops fitted up in the best style, are fitting up telegraph poles, putting on insulators, etc., for the line, which is kept three miles ahead of the railroad. At every important station on the railroad is a telegraph office, and through these daily supplies are ordered up.

NEW CANAL.—Parties in Stockton have in contemplation the cutting of a canal from a point just below the shipyard of the Navigation Company to Mormon Slough. It is intended to make it sufficiently deep for any of the steamers or sailing vessels that now come to Stockton.

RAILROAD ROUTE THROUGH THE ALAMEDA HILLS.—The Pacific Railroad Company's surveyors have been at work the past week in Crow Cañon, Alameda County, having completed the survey on the Amador road. It is reported that the surveyed route is the cheapest and best yet found.

THE tunnel at Livermore Pass which is being constructed for the Western Pacific Railroad, is already 1,160 feet in, and 170 feet underground. It is expected that it will be completed at the same time the road will be—in July.

THE SUEZ CANAL will be completed the 1st of October, 1869, and the total cost of its construction will be 400,000,000 francs, or $80,000,000.

A COMPANY is to be formed in Sonora for the establishment of a line of telegraphs between Guaymas and Ures.

New Inventions.

PACKING FLEECES.—James Walton, of Douglas County, Oregon, has invented a machine for pressing and tying fleeces of wool. The operation is said to be performed with ease and rapidity. A patent has been applied for.

A NEW MIRROR.—It is said that a French chemist has invented a new way of preparing glass for mirrors. It is coated with an exceedingly thin layer of platinum, and becomes, mysteriously, not only a perfect mirror, but also remains so transparent that it may still be used for windows.

MEXICAN RIFLE.—A new rifle has been invented by Don Juan Adorno, called the Adorno rifle. It has four chambers or barrels, and is said to be superior to the Prussian needle gun or Chassepot rifle. This arm awaits the approval of the Mexican Government, for defense of the frontiers and haciendas.

WOODBURY'S PHOTO-RELIEF PRINTING. Among the marvels of science, says an eastern exchange, a new invention may be recorded which is likely to create a new and powerful interest in photography. The want of a process by which the advantages of this beautiful art might be obtained mechanically, and without the aid of sunlight, has long been felt; it is now by Mr. Woodbury's Photo-relief process an accomplished fact. Pure blacks and whites can be given easily enough, but the half tints, which consist nine-tenths of a good photograph, have puzzled many experimenters to master. In Mr. Woodbury's photo-relief printing the picture is produced with every gradation of a continuous tint, and by mechanical printing sufficiently rapid to complete with copper-plate or lithography.

METHOD OF SEASONING WOOD.—A new method for seasoning greenwood in a very short time, consists in boiling it for some hours in water, by which the soluble substances are removed. It is then boiled in a solution of borax, by which the insoluble albumen of the wood is rendered soluble and escapes also from the pores. The wood is then placed in drying chambers heated by steam, and allowed to remain three days. Wood thus treated is said to be more compact than it would be by ten years of ordinary exposure, it does not shrink or warp, and is secure against decay.

AMERICAN corn-cobs are sold in the streets of London as "Patent Fire-lighters—eight for a penny."

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, February 13, 1869

Financial.

Our local money market presents a very marked and healthy contrast to the deranged, unreliable and panicky condition of these of the East. Financial affairs in the Atlantic States are evidently in a bad and precarious state, standing on the verge of a volcano, and by no means satisfactory. On the other hand, although there is a very active demand for money, with us, the supply is fully equal to all emergencies, and at unchanged rates. The demand comes mainly for large real estate operations, and gigantic enterprises calculated to meet the advancing wants of the State, such as the construction of railroads: working many new and rich mines; aiding mining interests; erecting new factories; enlarging the area of farming operations; building new steamboats, and the like. This is a different sort of showing from that which prevails at the East, where business is stagnant, and sharp cornering operations, and speculations on the fluctuating values of paper money absorb the attention and capital of the wealthy. Should a crash occur there it would undoubtedly affect us to some extent; but we are so trenched in financial solidity that any serious damage would be averted. In consequence of the excessive rains, which have fallen steadily for nearly a week, communication with the interior has been sadly interrupted, and our supplies of bullion materially lessened. Thus far we have been favored, beyond former precedent, with free and undisturbed interior intercourse, and advantage was taken of it to forward large supplies, keeping up an active, profitable jobbing trade. Rates in bank remain steady at 1@1¼ per cent. per month, and 10 per cent. per annum for large sums on long time.

Receipts of gold bars have greatly diminished, from the cause before mentioned, but the supply on hand is sufficient for immediate wants. We quote them at 880@890; silver bars remain from par to ¼ per cent. premium; currency bills on Atlantic cities pay 32½@32¾ per cent. premium on gold; coin drafts, payable at sight, rule at 1¼ per cent. premium; telegraphic transfers, 1½ per cent. premium; sterling exchange is quoted at 48¼@48¾d; commercial exchange, 49@49¼d; Mexican dollars command 5½@6 per cent. premium over gold.

The fluctuations attending Pacific Mail stock in New York during the past week were very marked, sinking from 116 on the 6th of February to 110¼ on the 8th, and rising to 115⅜ on the 10th. One of our prominent bankers purchased to the value of $100,000 or more, when the stock had reached its lowest point. American Government securities are finding unusual favor in the European markets. Cable telegrams inform us that they had run up to 77 in London, the highest point yet reached, and Rothschild is reported to have invested in them to the tune of $2,000,000.

The wide-spread spirit of speculation engendered by an inflated and unstable paper currency, and the mushroom success which has attended transactions in Government contracts during and since the war, seem to have corrupted nearly the whole nation. The denizens of this coast are shocked to learn, by every mail, of gross frauds, and grand peculations, either perfected or in embryo, to rob and plunder the Government. It really seems as if the spirit of patriotism, of honor, of common honesty, were submerged beneath the waves of an ocean of corruption and brazen villainy. Instead of limiting the operations of a vigilance committee to New York City, the organization should have a national extension.

The deeds for the transfer of property along the line destined to become the extension of Montgomery street, were recorded on the 9th of February, and the aggregate amount paid for the different pieces of property included is $750,000. This movement is but the precursor of others that will be necessitated by the rapid expansion and business needs of San Francisco.

City Stocks.

The market for other than mining stocks shows an improvement, both in transactions and prices obtained. Considerable sales of Spring Valley Water were made during the week at $69@68 ₱ share. Gas stock realized $90; and California Steam Navigation Co. 65 per cent.

The Bank of California disbursed its usual monthly dividend on the 15th instant.

Mining Share Market.

The mining stock market has been characterized by a very fair degree of activity during the period under review, the aggregate transactions amounting to nearly as large a sum as the previous week, embracing large sales of prominent stocks. The Board list is being gradually extended under the influence which White Pine brings to bear upon the market, and in fact the interest taken in this new argentiferous region imparts more or less of the buoyancy the stock arena can boast of at this date. As to the developements on the Comstock lode, we cannot give very encouraging news; however, work is being prosecuted with the usual vigor—yes, we may say, with greater energy than for a long time past, and it is to be hoped success will crown the efforts of all. Owing to the heavy rains and consequent interruption of travel, we are debarred from giving the very latest information from the mines.

Alpha—declined from $59 50 to $51, closing at $56. The water has become quite troublesome in the shaft....Amanor (Cal.) sold at $255. The Badger drift has developed finely as they proceeded with it, and the north shaft, which is now carried a considerable distance below the lowest level, shows a fine vein.....Belcher has been less active than the previous week, declining from $33 50 to $28 50, and closing at $31. On the 10th inst. the ore at the south line, on the 200 level, was widening, and the quality improving. The ore found on the 335 level continues good, and assays of seventy-five tons raised through the Belcher shaft, show assays as follows: 335 level, $90; 200 level, $47. They are able to extract thirty tons per day from the drift. Water continues to trouble them in the 420 level.

Chollar-Potosi—sold within a range of $160 @166, then at $160, closing at $162. During the week ending February 5th, 1,217 tone of ore were extracted; previous week, 919. Receipts of bullion in January, $50,700, against $108,336 in December....Crown Point ruled at $67 50@69, and closed at $68 75. On the 7th inst. the main east drift, on the 1100 level, was in 58 feet; rock hard. The northeast drift, on the 900 level, had attained a distance of 42 feet east of the east clay, the face showing granite, and the south drift was 435 feet from the north boundary line, running in cement clay and porphyry. The stopes between the 800 and 900 levels are nearly exhausted. In January the bullion receipts amounted to $38,458; and in December, $35,720.

Gould & Curry—is quiet at a decline, closing at $105. Are engaged in repairing the shaft. ....Imperial declined from $142 50 to $125 50, and closed at $131. On the 10th inst. they had not yet reached the ledge on the 1000 level, being within about ten feet of it on either level. ....Kentuck opened at $206, improved to $230, and closed at $225. In January the receipts amounted to $83,335, against $98,582 in the month of December....Overman declined from $78 50 to $70 50, and at the close sold at $75. The January receipts of bullion foot up $36,000; in December they were $60,258....Savage declined from $66 50 to $60 50, and closed at $62 50. A dividend of $2 50 per share was paid on the 11th inst. The bullion receipts in January amounted to $176,700, against $152,000 in December.

Sierra Nevada—sold at $28@25. In January the bullion extracted amounted to $9,998 66; in December, $7,568....Empire changed hands at $100, seller 30. Receipts in January, $13,665; in December, $15,574.....Confidence ruled at $34@33. Bullion in January, $10,960; in December, $14,728....Yellow Jacket, under the change of twenty shares to the foot, sold at $79 50@73, closing at $76 ₱ share, equal to $1,520 ₱ foot. A dividend of $5 per share is payable on and after the 15th. F. F. Ohiston takes the place of W. W. Wattson as Secretary.....Hale & Norcross improved from $65 to $79, and closed at $78. They crossed the ore in the north drift, finding ore some five feet wide, and showing rather good assays. At a later date the news from the mine was less encouraging. An assessment of $5 per share was levied on the 12th inst....Golden Rule (Cal.) will pay its usual bi-monthly dividend on the 26th instant.

Coöperative Farming and Silk Manufacture.—Albert Brisbane, the well-known Fourierite, has bought a large tract of land in Kansas for a colony of Frenchmen, who will cultivate the land on the coöperative principle, and manufacture silk goods.

Physical Survey of Virginia.—A pamphlet of 90 pages, with three large maps, has recently been published in Richmond, Va., setting forth the geographical position, commercial advantages, and national importance of the Commonwealth of Virginia. It is entitled *Preliminary Report of the Physical Survey of Virginia.*

A Horticultural School for Women, similar to one said to exist in Germany, is proposed to be established by prominent Bostonians.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT	DAY DELINQUENT.	DAY OF SALE
Amador Co., dividend, $6 per share	Payable Feb 10, 1868	
Bacon, Sturgy co., Nev., div	Payable June 19, 1868	
Belcher, Storey co. Nev., Dec. 31, $25	Jan. 30—March 2	
Crown Point, Storey co., Dec. 18, $7 50	Jan. 23—Feb. 15	
Chalk Mountain, Nevada co., Jan. 13, $2	Feb. 15—March 8	
Chollar Potosi, div., $15	Payable Oct. 15, 1867	
Crown Point, dividend, $7 50	Payable Sept. 12, 1868	
City R. R., San Francisco, Jan. 5, $5	Feb. 10—March 6	
Cherokee Flat B. G., Butte co	Annual Meeting Feb. 6	
Coney, preferred Stock, div. 2½ per cent	Feb 10, 1869	
Chloride Mt Tun., White Pine, Feb. 2, 50c	Mar 13—Ap. 10	
Dancy, Lyon co., Nev, Jan. 9, $2	Feb. 12—March 1	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $5	Payable Jan. 20, 1869	
Gold Hill Cons., Storey co., Jan. 8, $4	Feb. 13—March 1	
Gould & Curry, div., $7 50	Payable May 15, 1867	
Golden Chariot, Idaho Alley, $2 50	Payable Jan. 10 1869	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co. div. 50c ₱ sh	Pay. Feb. 10, 18 9	
Hope Gravel, Nevada co, Jan. 11, $1	Feb. 15—March 8	
Hale & Norcross, Storey co., Dec. 12, $5	Jan. 16—Feb. 8	
Hale & Norcross, div., $125	Sept. 16, 1867	
I X L, Alpine co, Jan. 19, $1 50	Feb. 27—March 17	
Imperial, Storey co., Nev., div	Payable June 24, 1868	
Juan Bautista, Santa Clara co., Nov. 27	Sale Jan. 30	
Julia, Storey co, Nev., $2 50	Feb. 10—Feb. 27	
Keystone, Consolidated	Special Meeting, Feb 13	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Mt. Tenabo, Lander co, Jan. 23, 75c	March 5—March 30	
Mohawk & Montreal, Nev. co., Feb. 10, $3	Mar. 15—Mar. 31	
Maxwell, Amador co., Feb. 9, $1	March 13—April 1	
North Amer. Wood P. Co., Jan. 15, $1	Feb 18—March 8	
North Star, dividend, $5	Payable Aug. 15, 1868	
Oriental, Sierra co, Jan. 4, $2 50	Feb. 5—Feb. 20	
Peninsula, Storey co., Dec. 15, $10	Feb. 11—March 6	
Pacific Uuss-essable, div	Payable June 18, 1868	
Rattlesnake, Yuba co, Dec. 19, $7 50	Jan. 21—Feb. 18	
Rippan, Alpine co, Oct. 15, $1	Sale Feb 8	
Rising Star, Idaho, Feb. 8, $6	March 31—April 3	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring sult, dividend $1	Payable Jan 5, 1869	
Savage, Virginia, Nev, dividend, $2 50	Payable Feb. 11, 1869	
Tallulah, Humboldt co., Dec. 14, $17 50	Jan. 29—Feb. 27	
Virginia & G. H Water Co., Dividend, payable Nov. 20, 1868		
Yellow Jacket, div., $5	Payable Feb. 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, February 12, 1869.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 81½	82
United States Bonds, 5 20s, 1864	81½	82½
United States Bonds, 5-20s, 1862	82	82½
Legal Tender Notes	74½	74¾
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par	& Int.
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1864	101	—
San Francisco School Bonds, 10s, 1861	par	& Int.
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	85	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	20	—
Sacramento County Bonds, 8s	50	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	—	75
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	—	80
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	65	67½
Spring Valley Water Co	66	68¾
State Telegraph Co	25	—
Gas Companies.		
San Francisco Gas Co	91	95
Sacramento Gas Co	65	70
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	7½	—
Central Railroad	60	—
North Beach and Mission Railroad	69	70
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	126	127
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
Mining Stocks—Washoe District.		
Alpha	55	55½
Baltimore American	—	—
Belcher	30	31
Bullion, G. H	15	—
Crown Point	68	69
Cole (Va.)	—	—
Confidence	30	34
Consolidated Virginia	9	10
Chollar-Potosi	162	163
Dancy	4	4¼
Exchequer	27	28
Empire Mill and Mining Co	95	100
Gould & Curry	105	—
Gold Hill Quartz	59	60
Hale & Norcross	77	78
Imperial	131	132
Julia	—	2
Justice and Independent	13	15
Kentuck	225	228
Lady Bryan	10	—
North American	16	18
Ophir	41	42
Overman	74	75
Segregated Belcher	8¼	9
Savage	62	63
Sierra Nevada	25	27
Yellow Jacket	75	76
Union	—	—
United States	—	—
Miscellaneous Mining Stocks.		
Amador (California)	255	260
North Star (California)	—	—
Eureka (California)	230	—
De Soto (Humboldt)	—	2
Golden Rule, California	12	13

San Francisco Market Rates.

Wholesale Prices.

Friday, February 12, 1869.

Flour, Extra, ₱ bbl	$5 25	@$5 75
Do. Superfine	4 25	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 80
Oats, ₱ 100 lbs	2 00	@ 2 25
Barley, ₱ 100 lbs	2 10	@ 2 25
Beans, ₱ 100 lbs	5 00	@ 7 00
Potatoes, ₱ 100 lbs	75	@ 90
Hay, ₱ ton	12 00	@18 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	11	@ 11
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	5	@ 6
Hogs, dressed, ₱ lb	9	@ 10

Groceries, etc.

Sugar, crushed, ₱ lb	—	@ 17
Do. China	10	@ 12
Coffee, Costa Rica, ₱ lb	—	@ 18
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	75	@ 90
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 48
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	40	@ 55
Isthmus Butter, ₱ lb	35	@ 40
Cheese, California, ₱ lb	18	@ 20
Eggs, ₱ dozen	50	@ 55
Lard, ₱ lb	12	@ 13
Ham and Bacon, ₱ lb	13	@ 15
Shoulders, ₱ lb	6	@ 8
Retail Prices.		
Butter, California, fresh, ₱ lb	65	@ 75
do. pickled, ₱ lb	30	@ 35
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	65	@ 75
Lard, ₱ lb	15	@ —
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	1 25	@ 1 50
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	10	@ 12
Peaches, dried, ₱ lb	10	@ 12
Oranges, ₱ dozen	75	@ —
Lemons, ₱ dozen	75	@ —
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	23	@ 25
Soap, Pale and 6	7	@ 12
Soap, Castile, ₱ lb	—	@ 20

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, February 12, 1869.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2½c ₱ lb.		
Scotch and English Pig Iron ₱ ton	$40 00	@$ — —
White Pig ₱ ton	37 00	@ — —
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Roller, No. 1 to 4	— 04¾	@ — —
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 21	— 05	@ — 5¾
Sheet, No. 24 to 27	— 05	@ — 6¼
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— —	@ — 26
Sheathing, Yellow	— —	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 35
Steel.—English Cast Steel, ₱ lb	— —	@ — 15
Quicksilver.—₱ lb	— 55	@ — 60
Lead.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 11¼
Zinc.—Sheets, ₱ lb	— 10½	@ — 11
Borax.—California, ₱ lb	— 35	@ — 38

New York Metal Market.

[CORRECTED WEEKLY FROM THE AMERICAN ARTISAN.]

New York City, Jan. 23, 1869.

Iron.		
Pig, Scotch, No. 1 (cash) ₱ ton	$42 50	@$45 00
do. American, No. 1 (cash)	41 00	@ 43 00
do. do. No. 2	37 00	@ 38 50
Swedish, ordinary sizes	155 00	@165 00
Common	90 00	@ 95 00
Refined	100 00	@120 00
Rods	105 00	@165 00
Horse-shoe	125 00	@ — —
Hoop	135 00	@190 00
Scroll	135 00	@175 00
Nail rods, ₱ lb	— 9½	@ — 10
Spring	— 10	@ — —
Tire	— 10¾	@ — —
Steel.		
Bars, best cast, warranted, ₱ lb	— 25	@ — —
Sheet, do	— 23	@ — —
do. second quality	— 20	@ — —
do third quality	— 17	@ — —
Sawplates, circular	— 30	@ — —
Double-shear, warranted	— 23	@ — —
Single do	— 20	@ — —
Montague & Co. (cast bars)	— 19	@ — —
Machinery, round	— 16	@ — —
German, best	— 15	@ — —
do. goat	— 11½	@ — —
do. eagle	— 13	@ — —
Blister, warranted	— 17	@ — —
do. common	— 19	@ — —
Jessop & Sons' common	— 16	@ — —
Double refined	— 25½	@ — —
Stone-axe shapes	— 26½	@ — —
Sundries.		
Solder, ₱ lb	— 20	@ — 22
Antimony	— 17	@ — 18
Sheller	— 9	@ — 10
Copper, old	— 17	@ — 19
Brass, old	— 13	@ — 14
Nails, roofing, ₱ keg	— 9 50	@ — —
do. do. third	16 00	@ — —
Tin.		
Tin plate, prime charcoal, per box	9 00	@ 15 75
Banca, ₱ lb	— 40	@ — 41
Straits	— 37	@ — 38
English	— 37	@ — 38
Copper.		
Sheathing, ₱ lb	— 31	@ — 32
Sheet	— 36	@ — —
Bottoms	— 28	@ — 40
Lead.		
American, ₱ 100 lbs	9 50	@ 9 75
German	10 00	@ — —
Bar	10 00	@ 10 25
Pipe and Sheet	10 50	@ 11 00
Zinc.		
Musselman and American, ₱ lb	13 00	@ 13 50
Brass.		
High, various widths, ₱ lb	— 46	@ — 52
Platers'	— 51	@ — 59
Sheet	— 48	@ — 55
do. circular	— 58	@ — 63
Wire	— 50	@ — 56
Wire	— 47	@ 1 15

Water as a Poison.—To drink nothing but water in localities where it is notoriously deleterious, is madness. Such a course is not a rational temperance, but suicidal fanaticism. Even a change from one kind of water to another has an injurious tendency, though hoth may be tolerably wholesome. Qualify the draught in all such cases with Plantation Bitters, and no unpleasant consequences can possibly ensue. This agreeable vegetable tonic and antiseptic at once invigorates the stomach and neutralizes the effect of any poisonous or disturbing element that may exist in the spring or stream, or well, or pool, from which the fluid is taken.

Visitors in the city wishing spectacles or optical instruments for themselves or their friends, will do well to call at Muller's Spectacle Emporium, No. 205 Montgomery street.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned

CALIFORNIA.

ALPINE COUNTY.

Markleeville *Miner*, Jan. 30th: Mr. Ray, the owner of that portion of the Mountain claim in Monitor district which lies on the slope of Red Hill, has made a commencement at showing what is beneath the surface. From the croppings in several places, Mr. Ray has recently taken rock which assays rich in silver and gold.

AMADOR COUNTY.

Jackson *Ledger*, Feb. 6th: Work on the Anaconda mine at Pine Grove is now being prosecuted with great vigor. The shaft is now down about 120 feet, and the deeper they get the richer it becomes.

The Alturas mine, located four miles above Volcano, is yielding very rich rock at the present time. They have now on the dump about 100 tons of quartz that will, in the estimation of good judges, pay $40 per ton.

CALAVERAS COUNTY.

Mokelumne Hill *Chronicle*, Feb. 6th: Calaveras has 491 miles of mining ditches. It stands third in the list of counties. There are 30 quartz mills in this county, which crush 20,000 tons of rock annually.

Business of every description is increasing in Railroad. Stores are being erected, quartz mills going up, and all branches of mechanical industry are flourishing. Discoveries of new leads are of almost daily occurrence.

A correspondent, evidently writing from Railroad Flat, says: The discovery of new leads in the immediate vicinity of the Flat, as well as in a circuit of several miles around, is of almost daily occurrence. Rich croppings almost invariably point to well defined leads, and those that have been the most thoroughly prospected are the most popular. It has been reported that the Chapman lead has been sold to a company for $15,000, the conditions of the sale being that the purchasers are to work the lead for three months, Chapman & Co. to receive the proceeds of their labor; after which time the lead is to be transferred to them, at the price above stated, if they desire it.

The Saudersou lead is undoubtedly rich, and only awaits the crushing process of its quartz, to satisfy the most fastidious. The Petticoat is a fixed fact; its good works praise it. The Chemisette and Balmoral have not been sufficiently prospected to arrive at a definite conclusion with regard to their richness, but the rock looks well and the leads seem well defined. Sandhorn & Lewis are working a new lead, running from near the South Fork of the Mokelumne, in a southwesterly direction. They have had very rich prospects. Opposite to them, commencing at Wet Gulch and running in the same direction towards Independence, and nearly parallel with the road, is the Good Hope lead, discovered and located by Alexander Piquette. The rock looks well and prospects favorably.

The Lower Rich Gulch correspondent writes: Work here is being pushed forward in good style. At the Palomo, they are sinking their main shaft. They have a fine, large vein, the rock of which looks well, showing considerable free gold. They will commence running the mill in a few days.

Alexander & Co. keep steadily at work, and seem to be doing a good business.

EL DORADO COUNTY.

Placerville *Democrat*, Feb. 6th: R. W. Scott, of Frenchtown, Mud Springs township, found a few days since in the Joe Goodwin claim, a specimen weighing 32 ozs., which is estimated to contain 20 ozs. of pure gold. The specimen is in shape precisely like a horned toad. The Joe Goodwin is an old claim, and one from which a large amount of money has been taken.

INYO COUNTY.

Los Angeles *Star*, Jan. 29th: We were shown this week, by F. Sabiche, two ingots of fine silver bullion from the Wolfskill & Cerveutes Mining Co., of Lone Pine, Owens River, Inyo County. One of the ingots weighed 87.86 ozs., and assayed .905 fine; the other was 85.50 ozs., .958 fine. We understand the mine is in fine working order, and that the ore is easily extracted and very free in working. The company has now at the beach 12 tons of freight, consigned to Tomlinson & Co., which consists of the various requisites for the successful working of the mine.

MARIPOSA COUNTY.

Gazette, Feb. 5th: The new quartz mill of Harbour, Williams & Co., near Buckingham Mountain, made an experimental run a few days since. It was the intention of the proprietors to crush 100 tons, but some portion of the machinery getting out of order they only completed the crushing of about 50 tons. Upon a cleaning up they found about seven pounds of amalgam.

NEVADA COUNTY.

Transcript, Feb. 2d: Stoakes & Co. commenced washing the dirt which they have taken out, and expected yesterday to put on more men, but were prevented by the snows which detained the water in the ditches. They are running for the main gravel channel, as are the parties working the old Kansas ground, and the indications are very favorable for striking it. The gravel increases in richness as they run into the hill, and there is every indication that they have the true lead. If these companies succeed, others will go to work, and a large range of rich ground in that locality will be worked.

Feb. 4th: Stidger, Evans & Co., at Buckeye Hill, have recently struck very rich ground in their claims, which they lately purchased from Henry Everett & Co.

The miners at French Corral are doing first rate, and have abundance of water. The Shady Creek claims are being worked. In the incline which is being run for a lower level, they have struck good pay. Coleman & Co., in the old Nebraska claims, have a 10-stamp mill for crushing their cement, and are doing well. The incline on the Kansas claim has reached very rich ground. French's and Giltman's claims have been sold to Chinese companies; the former getting $7,000 and the latter $10,000. Chinese companies have, during the past year, purchased a large extent of valuable mining ground on the ridge, which they are now working.

The Golden Age Co., on the south fork of Poor Man's Creek, commenced running their 10-stamp mill about 10 days ago, and the rock is looking splendidly. They are now running on the south end of the incline, which is down 125 ft. The ledge is 3½ ft. thick, shows some free gold, is very rich in sulphurets, and is regarded as one of the best ledges in county. Pat. Mulligan & Co. sold this ledge a short time since to S. D. Valentine & Co., of San Francisco, for the sum of $10,000.

Feb. 6th: The West Idaho Mining Co. have located 2,500 ft. on a ledge on the north side of Slate Creek, Rough and Ready township.

The Mount Bay Mining Co. have located 2,000 ft. on the Slate Creek ledge, adjoining Findley & Co's claim,

The Eureka Co. have located 17 claims of 60 ft. each on Relief Hill.

John Williams and others have located for mining and flumiug purposes, Sugar Cañon at Relief Hill.

Gazette, Feb. 3d: The mill of the Banner Co. which has recently been enlarged and improved was started in operation yesterday. The engine and machinery of the mill work beautifully, and it is calculated the mill will crush from 60 to 80 tons daily. They have out now some 600 tons of rock on which to commence crushing, and enough can easily be taken from the mine to keep the 40 stamps steadily at work.

Feb. 4th: J. J. Dorsey and others have located 1,000 ft. on the Eureka lode, commencing at the northerly boundary of the Roannaise claims, and being the second extension from the Eureka Co's claims. They also claim 150 ft. on each side of said lode, for dumps, casements, and other mining purposes.

Feb. 8th: The Sebastopol mill is now undergoing thorough repairs.

The proprietors of the William Penn mine east of Grass Valley, have let a contract to sink on the ledge to a depth of 100 ft. for the sum of $1,800. The claim has only been worked to a depth of 30 ft., and the rock has yielded as high as $30 per ton.

The owners of the Osborn Hill mine are pushing work ahead in their mine with energy. They have just placed upon the ground a new 8-inch pump. Several stringers on their claim give evidence of uniting with the main ledge, and they now anticipate finding it much wider than where they now have it. Gregory Co. adjoining, are sinking a shaft on the old Callahan claim, and taking out fine looking rock.

Grass Valley *National*, Feb. 1st: A. Shurtliff has located a claim near the Bowery ledge, which promises to be a very valuable one. He has found several fine specimens and the dirt prospects from one to two bits per pan.

Feb. 5th; Steam hoisting and pumping works have been erected upon the Garden City ledge. The ledge runs parallel with the street, dipping into Church Hill. They are now down about 50 ft. and are taking out some good looking rock. It shows galena, sulphurets, and some free gold. They will have a crushing shortly.

The John Bright ledge, near the Lone and Ben. Franklin is being well developed. They are down 200 ft. and have drifted on the ledge about 350 ft. The rock looks well and is continually improving. It pays from $35 to $50 per ton. Fifty loads just crushed at the Gold Hill mill yielded the sum of $1,954, an average of more than $39 per ton. The John Bright has never had a poor crushing yet, and is certainly a well paying ledge.

Truckee *Tribune*, Feb. 6th: We learn from J. E. Carter the following concerning the Mammoth ledge at Camp 22. The claim is known as the Mammoth ledge, and was first located by him in 1863. The location consisted of 1,800 ft. on the ledge commencing at the river shore. About $500 worth of work has been done on the claim and the ledge is quite wide. A sample of ore taken from a depth of about eight ft., assayed by Waters & Co., Sacramento, last month, gave $76 per ton in gold and $8.71 in silver. The rock is easily obtained, and being right on the river shore can be crushed by water power at a very trifling expense. Mr. Carter informs us that quite a number of quartz veins can he traced in that vicinity.

EXCELSIOR.—*Transcript*, Feb. 6th: From a letter just received from Meadow Lake, we learn that the snow is eight feet deep on a level, and at the time the latter left, it was still coming down, with no prospect of ever letting up.

Several of the mines in Meadow Lake district are being worked at present. The Mohawk & Montreal, Enterprise, and the White ledge are looking well. The former company is running their lower tunnel into their shafts, and will cut the ledge at the depth of 400 ft. from the surface. At the depth of 68 ft. they cut a blind ledge of excellent decomposed ore which looks first rate.

SAN BERNARDINO COUNTY.

Guardian, Jan. 30th: The Lytle Creek mines, if they were situated in the northern part of the State, would create as much excitement as any placer diggings that have been discovered in late years, but being in what is considered the grazing or agricultural district of California, they have not received that attention from miners and capitalists their richness deserves. From $5 to $20 per day to the hand is an average yield, and some of the claims on the Creek are paying much better.

SIERRA COUNTY.

Downieville *Messenger*, Feb. 6th: The Camptonville correspondent writes: For a week or so there has been considerable excitement about some rich quartz that has been found right in the town.

Since the road has been removed from the gravel diggings everybody has prophesied that the town would "go in," but as the Brush Creek mine has proved rich, and the Alaska ditto, and if we are so lucky as to have another right in the "city," we shall live and flourish sometime yet.

SISKIYOU COUNTY.

Yreka *Union*, Jan. 30th: This paper labors in a column and a half article to convince the citizens of that section that they ought to immediately combine and prospect and thoroughly work the flats adjacent to Yreka Creek, from Yreka City to its debouch into Shasta River. It says: Practical miners, whose opportunities have been the best for forming a correct opinion, have expressed the opinion, time and again, that it would pay largely if opened properly and worked to advantage. We may regard it as a well-established fact—as well established as any fact in mining can be prior to actual experiment—that the opening and working of Yreka Creek, if done in a proper and economical manner, would be a paying operation. That it will be done, sometime, we have not the shadow of a doubt. The question for the business men and property-holders of Yreka and vicinity to determine, is whether it shall be done now and they reap the advantage of it, or be postponed to the future and permitted to accrue to the advantage of those who succeed us.

A Scott Valley correspondent writes as follows: John Carroll & Co's claims on McAdam's Creek continue to pay well—pay nearly an ounce a day to the drifter. It will require many years to work out these claims. Why do our citizens go to White Pine when they can find on McAdams Creek plenty of diggings just as rich as Carrol & Co's claims. The Steamboat claims are as rich as any claims on the Creek. These claims will pay from half an ounce to an ounce to the drifter.

Col. E. P. Jenner, manager of the Ætna Mining Co., informs me that this company is working night and day with every prospect of soon reaping a rich reward for toil and money invested.

TULARE COUNTY.

Visalia *Delta*, Feb. 3d: From parties from White River we learn that mining operations are moving along as usual in that locality. Mr. Maltby is taking out of the Eclipse mine large quantities of exceedingly rich ore. The Philadelphia Co. are sinking upon and prospecting their mines.

TRINITY COUNTY.

Weaverville *Journal*, Jan. 30th: The claim of Ritter & Dack, on Lytle Creek, is paying them $100 per week. The claim is worked by means of a hydraulic, with water from Frey & Taylor's ditch.

The Weaver Creek flume is working finely, and the company have several men sluicing. Another year will be required to put the flume in the bedrock.

Frey & Taylor's new ditch out of Grass Valley Creek is in good condition, and is furnishing water to the miners on Lytle Creek.

Chamberlain & Worrell are prospecting on Rush Creek. They report that they have found good paying prospects. There is an abundance of good mining ground on Rush Creek that a little enterprise would develop.

ARIZONA.

Prescott *Miner*, Jan. 9th: The news from the various mining districts is good. Many men are preparing to go to Black Cañon diggings, Bradshaw district. Jackson, Lovejoy & Co. have commenced work in their hydraulic claims on Lower Lynx Creek, and Solomon Shoupe is opening another claim above them. The German companies at Big Bug, are sluicing away. Two or three men are in town, endeavoring to raise a party to go to the diggings on the south side of the Bradshaw Mountain. Mr. Borger is running his furnace and chlorination works at the Sterling.

Jan. 16th: The rush to the Black Cañon gold diggings, in the Bradshaw mining district, continues. Over thirty men left Prescott this week, and as many more are preparing to leave. By this time there must be a hundred men in the diggings, and there is room for ten times as many more. Although within six miles of the diggings there is an extensive pine forest, most of the miners that have gone there took lumber for sluices from Prescott. The winters are very mild at the diggings, and men can work there every day in the year.

There is lying in front of the store of Wormser & Co., a large, fine specimen of ore from the Sterling mine, near Prescott, and which Mr. Borger, the owner of the boulder, intends to take to San Francisco. It is nearly one solid mass of sulphurets, but strange to say, shows free gold in many places. It is, we think, the richest piece of sulphuret ore in America, and San Franciscans will say so when they see it. It was taken from the ledge at a depth of 60 feet.

Jackson, Lovejoy & Co. have commenced piping their hydraulic diggings on Lynx Creek, but unless it rains or snows soon, they will be compelled to stop work. The present is the dryest winter we have had since '63.

We learn by letter from Wickenburg, that Henry Wickenburg has sold his quartz mill to Kraus, Reed & Smith.

F. H. Wunderlich showed us this week a mass of Sterling gold, weighing 30 ozs., which was taken from the battery and off the plates, recently. It appeared to be very pure.

BRITISH COLUMBIA.

Portland *Oregonian*, Jan. 30th: Thos. Emery, now in this city, has received a letter from Geo. Weaver, who has a claim in the new diggings at Kooteuay. Weaver says the diggings are neither rich nor extensive, but that they will pay fair wages to a few. He would advise no person to come; but should there be a rush, he hopes it will not take place until after high water, about the 1st of July. He adds that there is a large section of unprospected country lying between Kootenay and Columbia rivers, where good diggings may be struck next season.

COLORADO.

Georgetown *Miner*, Jan. 27th: The Mendota lode is now carrying ten inches of solid mineral, and four feet of mineral and gangue combined. The quality of the ore is rapidly improving.

Huepeden, Wolters & Co., have taken out and shipped, since our last report, 3140.80 ounces of silver bullion, coin value $2,792.61.

The Grass Valley Co., of Colorado, have completed arrangements with Eastern parties for the erection of reduction works on the Grass Valley Bar, and propose to purchase ores from any that have them for sale.

The Marshall tunnel is now in 130 feet, and in close proximity to the Empire lode,

one of the best veins on Leavenworth Mountain.

The Griffith lode, on Griffith Mountain, is now carrying 30 inches of mineral, that assays 300 ounces of silver to the ton, and 30 per cent. of lead.

Denver *News*, Jan. 20th: Mining on the "Orphan Boy" lode, in the South Park, is being carried on vigorously, and fine ore is being taken out. There is but little snow in the Park.

MONTANA.

Helena *Post*, Jan. 15th: Hunter's Bar, in Confederate Gulch, is still being prospected by Thompson & Peterman. A tunnel has been run 200 ft. into the mountain, and at this depth exhibits seven ft. of fine wash gravel, averaging 12 cents to the pan.

From Argenta we learn that most of the mining operations have ceased for the winter. The Tootle, Leach & Co. furnace has closed up for the purpose of employing the full force upon the excavation of rock.

The Highland correspondent says that Pref. Swallow has just finished a trial run of 45 tons of ore from the J. B. Thomas lode with splendid results.

The Virginia *Democrat*, says: We learn that two runs have recently been made from the Iron Rod lode, which is down 250 ft. and upon which is three drifts. The first lot crushed averaged $122 to the ton; the second lot averaged $128 to the ton. It seems that they have struck the water level, as they take out from five to eight barrels of water per day from the shaft....A clean up at the Wann mill, in Rochester, which occupied two weeks, resulted in a yield of $3,000. The ore crushed was from the Watseka lode....The reports from Ramshorn Gulch are much more flattering than ever before. Detwiler & Co. are laying a drain and sinking a shaft to bedrock. Snyder & Co. are drifting and taking out most excellent results....Work has been recommenced on the John How tunnel.

Helena *Post*, Jan. 22d: It is reported that prospecting in the vicinity of Trinity revealed some rich placer diggings. We learn that the locality is being actively prospected with every evidence of success.

A person who has just arrived from Missoula Mills informs us that the people of that region are turning a little attention to quartz. There is a lode called the White Cloud, situated about two miles south of Missoula Mills, and ten miles from Fort Owen, which has been prospected quite extensively. A shaft has been sunk upon it to the depth of 80 feet, and the character of the quartz improves as the depth increases. J. T. Hervey, who erected a mill at Cable last season, is taking the mill down and proposes to erect it upon this lode.

Yesterday Prof. A. Steitz melted down 16 lumps of retort weighing 842 ounces. This retort was the product of a run of Prof. Swallow's mill, on quartz from the Thompson lode.

The Deer Lodge *Independent* gives the following: Prof. Swallow's mill at Highland, is at present crushing quartz from the Forest Queen lode, the richness of which is settled beyond all doubt....The St. Louis and Montana Mining Co. at Phillipsburg are taking out very rich ore from the Hope lode....The James Stuart mill will commence crushing ore about March 1st. John Ullery & Co. have found about half a mile east of the mill, at the depth of about 80 feet below the surface, a large vein of very rich ore, into which they are now engaged in running tunnels.....On the Boulder Fork of Flint Creek there is a number of miners engaged at work developing large lodes of argentiferous galena ore....In German Gulch the fluming company is very busy sawing blocks, etc., and getting ready for spring work....Some 74 men are still at work on the Siberia ditch, the tunnel for which was let on the 15th, at $4.25 per linear foot.

NEVADA.

REESE RIVER.

Austin *Reveille*, Feb. 1st: We learn from Palmetto district that Catherwood's 10-stamp mill was closed after producing $80,000 in two months. The cause of its shutting up was the exposed condition of the works at the Champion and Kentucky mines, from which the miners could not extract ore to advantage during the cold weather. When the mill was stopped there were perhaps 400 tons of good ore upon the dumps. The mill was worked successfully, and the mines which we have mentioned are said to develop large bodies of ore of a high grade. Work will be resumed in mill and mines with the return of favorable weather.

During the week ending Saturday, the 30th ult., the Manhattan mill in this city produced 15,617 ozs. of bullion. The ore reduced was of an unusually low grade.

Feb. 5th: There is a fine specimen of ore from the Buel North Star mine, in Lander Hill, to be seen at the assay office of Boalt & Stetefeldt in this city. It is a choice sample of the pure sulphuret ore which occurs in the noted mines of that hill, and would be an addition to the best cabinet of minerals. The face of the specimen exhibits white quartz, flesh-colored manganese, copper pyrites, and streaks and spots of blood-red ruby, beautifully blended. The ore is as valuable as it is beautiful, and would assay largely of silver to the ton.

Mountain *Champion*, Jan. 30th: The Silver Peak district is at present one of the liveliest mining camps in Eastern Nevada. The mill of the Great Salt Basin and Red Mountain Co. is hammering away night and day. The mine from which they obtain the ore now being worked is some seven or eight miles from the mill. The mine cannot be termed a ledge, for, as yet, neither foot nor hanging wall has been encountered; it is simply an immense quarry—a mountain—of gold-bearing quartz, which yields an average of from $30 to $40 per ton. The workmen have not to go down into deep shafts, with bad air, and work in a stooping or sitting posture as is the case in many of the mines in other districts, but work in the open air, and with a single blast throw down hundreds of tons of ore. The cost of mining the ore is said to be but $2 per ton; it cost $1.25 per ton to convey it to the mill, and the milling of it costs $5 per ton; making a total cost for mining, shipping and reducing the ore of $8.25 per ton, leaving a profit to the company of not less than $25 upon every ton of ore worked. The inexhaustible character of the mine and the facility with which the ore can be reduced—the mill putting through two tons to each stamp every 24 hours, and working the ore up to 95 per cent.—makes this one of the most valuable properties in the State.

WHITE PINE.

[The excitement concerning these mines seems to have somewhat lulled in the interior from the "fever heat," which recently characterized it; yet many persons from different portions of the State continue to wander thitherwards, and risk the chances of starving or freezing to death in order to be on hand at the first dawning of spring before the multitude which now stand ready to start on the first appearance of a thaw, can overrun and locate the entire region. The Austin *Reveille* in a recent article on these mines, characterizes the Eberhardt mine as the "fish-bait" which is leading many "suckers" to bite at many a well-concealed hook. It is true that numerous ledges have been located, and articles of incorporation filed on a vast number of what are called "leading mines," but the question is, how many of these locations have given any showing of producing a paying ore, and how many incorporated companies have been formed for the purpose of opening up and developing the lodges? It is easy enough to form a company and incorporate, and issue stock when a sufficient number of gullible persons can be found to invest in that kind of speculation, and we believe that the climate of California is very propitious for the production of this class of "hap-hazard" speculators. At least, judging from the past and present mining excitements, it would be hard to form any other opinion. It must be recollected that all mines are not Eberhardt or Keystone mines, even if they do lie within a thousand miles of those ledges, and inside of the boundary of White Pine mining district. That some of the companies are worthy of success we have no doubt, and we do not condemn White Pine for the wild-cat which always accompany new and valuable discoveries; but let the wise be cautious, investigate for themselves, or unite in employing reliable parties to examine for them before investing, unless they have plenty of cash to stake upon a venture.]—EDS. PRESS.

Stephen R. Hoyt writes from Treasure City, Nev., to the Nevada *Gazette*, under date of Feb. 1st, as follows: In my opinion, nearly all the ore found upon Treasure Hill lies in deposits, the mines having an accumulation of mineral matter of irregular shape. But few regular ledges or veins have as yet been discovered on the hill; the ore is found in stratas and lies horizontal. Several companies are now sinking shafts on Chloride Flat, expecting to find deposits of ore beneath the present stratas. It was currently reported on the streets a few days since that rich ore has been found in one of these shafts at a depth of 60 feet from the surface, but as yet the report has not been traced to any reliable source, and I think the rumor is not true.

A dispatch dated Elko, February 3d, has the following: Prospecting at White Pine district, which had gone on with the most satisfactory results until last week, is now stopped by the setting in of winter in earnest. The cold is intense, and the snow is from two to three feet deep and still storming. One foot fell on Saturday night. The stages are over-crowded, and the roads lined with people on foot, pressing forward for the new Eldorado. It is utter nonsense for people to rush there now.

Recent developments more than confirm the first impressions of the richness of the district. The Oasis and Miller's mills are now running at full capacity. The Eberhardt and Keystone consolidated yesterday, and will soon incorporate in San Francisco. Jumping lots and claims is lively. The Noonday and Emigrant companies, on Chloride Flat, ran into each other's tunnel on Saturday last, and a lawsuit or fight is imminent.

Austin *Reveille*, Feb. 1st: Ten bars of bullion, weighing 1,060 lbs., were brought into this city from White Pine by the stage which arrived this morning.

Feb. 4th: The deed of the Snow Drop claim at White Pine was sent to the Recorder's office yesterday for record. The claim was sold by E. Applegarth to the Chloride Flat Co. for $25,000.

WASHOE.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Feb. 2d: The receipts of the Kentuck Mining Co. thus far on January account, aggregate $57,800.

The Sierra Nevada Mining Co. yesterday morning shipped through Wells, Fargo & Co. one sack of crude amalgam, valued at $4,000.

The Imperial Co. is hoisting about 140 tons of ore daily from the Alta mine, and both mills are kept running to their full capacity.

Feb. 4th: The Union Pacific Express Co. yesterday shipped 8,935 pounds of bullion, worth $24,823 25.

Feb. 5th: The Crown Point Co. are drifting on their 1,100-feet level, and expect to cut their lead in 150 feet. They are now in hard blasting rock, but have made 40 feet of the above mentioned distance.

Wells, Fargo & Co., yesterday, shipped 50 bars of bullion, weighing 3,851 pounds, and worth $91,858 44.

NEW MEXICO.

Santa Fe *Gazette*, Jan. 16th; A dispatch from Cimarron, dated Jan. 9th, says that Maxwell's mill cleaned up last night, after a week's run, $5,000 in gold, and the opinion is that the lode is better than ever.

The Elizabethtown (N. M.) correspondent of the Marysville *Appeal*, writing under date of Jan. 7th, after giving a history of mining operations in that locality says: The miners who had natural streams of water in their gulches—all of them too small to accomplish much—have been sluicing out good pay, and are very sanguine of large success when the ditch is completed next season. The main dependence of the country, however, is in its rich gold bearing lodes, many of which have been struck and a few very perfectly developed. They are very numerous, and run in a northeast and southeasterly direction, having for their base the prominent peak of a very high bare mountain, known as Old Baldy. The veins are wide, the quartz easily crushed, and containing what is termed fine gold. Maxwell's & Co's 15-stamp quartz mill is already in operation on the eastern side of Bald Mountain, and is cleaning up daily about $500, from the quartz of two lodes, discovered early in the summer. On Humbug Gulch, near Elizabethtown, an 8-stamp mill has been finished recently and is ready for custom quartz; a great deal of which has already been taken out of lodes by men as yet too poor to have mills of their own.

OREGON.

Portland *Oregonian*, Jan. 30th: Specimens of gold-bearing quartz from Burnt river, said to be worth $2,000 per ton, have been recently brought to this city.

WYOMING.

Sweetwater *Mines*, Jan. 23d: The South Pass correspondent writes: The new ledges discovered in the fall and this winter are now undergoing development. The Duncan ledge, discovered in the fall, has a character of rock resembling the Jim Dyer and Cariso; the Golden Gate is similar to the Duncan; the Barnaby is another of the Cariso character; the Empire and Nellie Morgan, on Palmetto Gulch, are of the same stripe. All these ledges exhibit free gold and assay well—miners' process; hand-mortar and horn. Now we come to another character of quartz, but equally as rich as those just mentioned; it is after the nature of the Lone Star quartz, exhibiting little or no free gold, but prospecting well in flour gold; such as the St. Lawrence ledge, of recent discovery. I have examined this ledge attentively and with curiosity. I see in it the solution of a mistake that was made by the many wise-acres that rushed here last spring and as speedily left. They claimed that in this country the ledges must prospect on top, or they were worthless. The discovery and development of the St. Lawrence has exploded this idea. Not a color could be got on the surface, and not until the depth of six ft. was reached could a prospect be raised; from that to the depth of 24 ft. it proves rich, and is increasing in value as they go down.

SILVER PRODUCT IN COLORADO.—The year 1868 shows an increase in the production of silver in Colorado, over 1867, and improvement in the methods of mining and beneficiating ores. The following are the products of leading metallurgical establishments in the vicinity of Georgetown, as given by the Colorado *Miner:*

Huepeden, Wolters & Co., (amalgamation) in eight months' time, 38,046.28 ounces—$30,101.15.

Georgetown Smelting Works, managed by Mr. Herriek, 19,800 ounces—$26,730.

Schirmer & Bruckner, (smelting) in five weeks' time, with Kustel furnace, 8,312 ounces—$11,214.20; being 96¼ per cent. of the fire assay of ores treated.

Stewart's Smelting and Amalgamating Works, in fifty working days, 5,218.50 ounces—$5,939.

Brown Company, at their own works and at the Georgetown Smelting Works, during the year, 6,480 ounces—$8,748.

Total for 1868, about $100,000; against $18,000 for 1867.

LOCHHEAD'S NEW TWIN PROPELLER for Goodall & Nelson's tug-boat, is so planned that instead of having a separate engine for each propeller, as is usual, one engine will turn both propeller shafts, by direct action, without the intervention of slides and gibs. The two propellers are revolved right and left, together, at the same speed always; and the reverse, by a link motion, turns the propellers the other way. One propeller cannot be turned ahead and the other reversed, as in ordinary twin propellers. Another novel feature in this engine is the fact that the two propellers, working as they do, right and left, are placed further aft than usual with twin propellers, and the blades, three in number, run into each other like the teeth of a gear-wheel. To keep the two shafts working at the same speed, and so that there may be no strain on the beam, they are geared together with four gears abaft the engine.

ACCLIMATIZING GROUSE.—Messrs. Liddle & Co. have recently imported six pairs of grouse from the northern part of Oregon, with the intention of introducing them into the counties bordering on San Francisco. The bird was introduced into the northern part of Sonoma County some years since, and has done well. Some few of the birds were placed in Marin County, but owing to the facility with which hunters have been enabled to scour that county, they soon disappeared.

AMERICAN ARMY GUN.—The United States has adopted, as the national arm, the Allin breech-loader, which is produced at the Springfield United States Armory by transforming the ordinary Springfield regulation musket into a breech-loader. It is said to do more execution than any other gun known, and combines more essentials for general efficiency. This gun is named after its inventor, Mr. Allin, the Master Armorer at Springfield.

HOW THE BOTTOM OF THE OCEAN IS INHABITED.—In a recent report before the Royal Society, Mr. Gwin Jeffreys stated that deep sea bottoms teem with animal life, and with creatures of a very remarkable kind, some of which connect long past geological periods with the geological action going on in our own time. In an exploration made recently, the dredge brought from a depth of 517 fathoms a crab, an ophiurian and some other annelides.

NEW DREDGING MACHINE.—W. K. Reed of Stockton has contrived a dredging machine, which is simple in construction and is capable of performing a large amount of work. On an average, it requires about two minutes to cast the scoop into the water, take it up full and empty the contents into the barge. Three men only are required to operate the apparatus. The barge will carry a burden of eighty tons, and can easily be loaded in a day.

INDIA RUBBER TIRE AND HORSE SHOE COVERS.—It is proposed in England and France to render pavements indestructible by the use of india rubber or gutta percha tire and horseshoe coverings. "No more racket in the streets," advertises the inventor.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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MR. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:

Saturday Morning, Feb. 13, 1869.

Notices to Correspondents.

A. Z.—The interesting crystallization of epsom salts dissolved in beer when spread upon glass, is no new discovery, as asserted by some cotemporaries. It was named to us by a gentleman when we first took possession of our present premises, as being one commonly adopted as a cheap mode of *frosting* window panes, and recommended us to make a trial of the method with the lower portion of the glazed partition of our inner office. As some interest appears to have sprung up on the subject, we intend to do so, and after the end of the present week, those who may be desirous of seeing the effect produced, may witness it by calling. We are informed it was employed at a store in this city ten years ago; and it has been stated to us by an English sexagenarian, that this mode of frosting windows has been practiced in England beyond the period of his earliest recollection.

ADHESION between liquids, retaining the form of liquids, is usually very perfect, as from the mobility of the particles they easily become incorporated. Some of the greatest exceptions are to be witnessed, as in the instance of oil and water. A drop of vinegar, ink, or alcohol, may be perfectly mixed with a quart or any other quantity of water,—a drop of water,—with a quart of vinegar, ink, or alcohol. To the instances given of perfect adhesion and also of non-adhesion, may be added a few in which at a certain point, the adhesion of the particles of the two liquids balance their adhesion towards each other, and become mutually saturated. Ether may, by agitation, be mixed with water, and the greater part will separate on allowing the mixture to repose. The ether will have dissolved one-eighth or one-tenth of its bulk of water, and the water will have taken off about an equal quantity of ether. In a similar manner, the essential oils dissolve to only a very small amount in water; oil of peppermint, for instance, if agitated with water, and then left to rest, will, for the most part, separate, although a sufficient quantity will become dissolved to communicate the flavor and odor of the essence to the water.

THE REPORT OF LIST OF PATENTS for the Pacific Coast has not been received this week, owing probably to detention of Overland Mails.

THE Pacific Theological Seminary, under Prof. J. A. Benton, is open for students. President, A. L. Stone; trustees, J. A. Benton, Noah Brooks, and J. M. Haven.

Our Resources—A Noble Field.

Who that reads our newspapers, or travels on the Pacific slope, or thinks, can fail to conclude, in his own mind, that this country is the noblest field for energetic men, and for the development of a powerful cosmopolitan race, that the world has ever seen? Yet we are so habituated to self glorification, and our favorable situation has so often been asserted, that the repetition seems but stale. It is nevertheless a living truth that may well inspire us, and that cannot fail to excite every free and clear-sighted observer in our midst to enthusiasm. Our resources are, to our present means of estimating them, absolutely boundless. The opportunities presenting themselves to individuals for advancement in material prosperity and in the enjoyment of life, are found to exist everywhere, so that the honest man who fails to profit by them must be adversely constituted, or short-sighted and tbriftless indeed. It is quite needless to specify; every one can refer in his own mind to half a dozen openings for enterprises such as would be in grandeur almost beyond the grasp of the detailed schemers and capitalists of over-populated older countries.

The Pacific Coast has been occupied by us for twenty years, and we are scarcely beginning to realize its extent; none but the shrewdest and studiously observant have more than a very partial idea of its resources. To this day there are territories virtually unexplored, and unapprcciated, that would suffice to make States and empires.

Thus White Pine suddenly looms up before us out of the wilderness. It is now ascertained to be undoubtedly the deposit of thousands of tons of accessible *metal*, which will be circulating in the form of silver currency in perhaps a little more than two years of time. From what we know of the extent and nature of the chloride and rich vein deposits of Treasure Hill and vicinity, it is pretty certain that they cannot be exhausted in less than two years, nor the ores worked up by all the stamp mills that are likely to be brought into use on the spot within that time. Business men, manufacturers, ranchers, and home-staying Californians, may calculate accordingly. Beyond that, the probability is that not only Treasure Hill, but Virginia City and Austin, will remain permanently profitable mining centers, without the romance of "early times" however, but under the world's stern law of realities, in the same manner somewhat that California mining is permanent to-day.

White Pine is but a single item. The entire Pacific Coast is as promising as it can be. To realize the truth fully in detail, all that is necessary is information; a desideratum that, we are proud to state, is appreciated by a larger proportion of laboring men —who are in most cases of respectable family antecedents—than in any other country, or amongst any other race that the world ever produced. In confirmation of the above statement, let the reader glance over our column of "Resources and Developments," consisting of items clipped chiefly from our San Francisco daily exchanges in a single week.

This is not merely a noble land, but it is filling up with a brave and generous people. To be narrow-minded and small-souled is as bad in California if not worse than it is to be "no gentleman." It is true that lately we are having garroters and thieves; they circulate in our midst and travel in our public conveyances, but they wear foreign-looking clothing, and are not of us; and they soon become highwaymen, gamblers, pimps, etc., ashamed in a land like this of being anything more thoroughly contemptible.

We have grand mountains, and blue hills which smile in peaceful sunlight under the most joyous of skies, and love to outline themselves clearly against rosy and golden sunsets; we have rich valleys, prolific in growing all the fruits of the tropics that we can desire,—oranges, figs and vines. As society, we are toned in manly, adventurous antecedents; and are without exception latently conscious of our destined greatness, though disposed in a human way to overlook the significance of the present. Without attempting to study general bearings that do not concern the multitude, we may rest complacently in the satisfaction whose absence so distressed Alexander, that there is presented, on the Pacific Coast, to each individual a "world to conquer," of a magnitude sufficient to satisfy every ambition.

A MILLION BUFFALOES ON THE RAILROAD. We had begun to think that the buffaloes would not be seen any longer where the railroad has been built; but a gentleman just arrived from the plains reports that at a distance of 250 miles west of the Missouri, on the Kansas Pacific road, he passed through a herd covering a surface of 500 square miles, and containing probably over a million. The number of dead buffaloes lying on the line of the road, shot by passengers as the cars go along, is very great. Legislation must surely put a stop soon to such wanton slaughter. Though there would seem to be no danger, from this, of buffaloes becoming extinct at an early day, yet it is a fact worth knowing in evidence of such a possibility—in spite of their vast numbers—that similar species of wild hoofed animals which herded in great numbers in Central Europe in the ancient pagan times, are now entirely extinct, not a representative of their kind being left on the face of the globe.

THE SCHOOLMATE.—This pleasing and instructive monthly continues to supply a quality of useful and interesting reading matter such as is adapted to and required by the young students of the land. It is the oldest boys and girls' magazine having a general circulation, and is not inferior to anything of the kind that has ever appeared. Artistic illustrations much enhance its value. It is published by Joseph H. Allen, No. 203 Washington street, Boston, at $1.50 per annum.

NOTHING NEW.—John Cox made a velocipede sixty years ago, exactly like the two-wheeled one which is now the rage. He handled it as well, too, as the best of Parisian experts; astonishing the natives of Norwich, Connecticut, with the rapidity and grace of his evolutions. He was a blacksmith,—born to blush unseen in the wilderness of a Yankee town. The same idea occurred, half a century later, to somebody in the gay French capital, and his fortune was made.

SALE OF THE HIDDEN TREASURE. —A sale of this valuable mining property was effected on Thursday last for $200,000. The stock, we are informed, is already commanding a high advance. The new Directors are: George W. Beaver, President; E. B. Dorsey, George D. Roberts, S. Haydenfeldt, Frederick Castle, M. J. McDonald, Robert E. Morrow, Directors.

A NEW STYLE VELOCIPEDE.—Messrs. Perkins & Detrick have just completed a three-wheel velocipede on a new principle. Each of the rear wheels work independently by means of a clutch, by which the operator can give a long or short stroke to either treadle. It made its first appearance last evening, and works with great ease. A splendid thing to all appearances. We shall mention it more fully hereafter.

AN EXAMPLE TO BE FOLLOWED.—A microscopic club has been organized in Chicago. Two well-known citizens express a willingness to give liberally toward purchasing instruments and scientific works upon the subject of microscopic instruments.

VELOCITY OF NERVE FORCE.—It takes about a second for the prick of a harpoon in a whale's tail to reach the sensorium; and another second for the telegram, which is sent back to the tail to capsize the boat, to get there. This is generally time enough for the boat's crew to "pull off" to a safe distance. Helmholtz found, by experiment with Pouillet's chronoscope,—a machine in which a magnetic needle is made to deviate more or less by a galvanic current of longer or shorter duration, thereby measuring time in thousandths of a second,—that the velocity of the nerve force was about eighty-eight feet in a second. M. Hirsch, of the Neufchatel Observatory, found that in man it was about 111 feet in a second. Dr. Schelske found it about ninety-six feet. The following is from the *Journal of Mental Science:* "The time required for certain cerebral operations has been measured by Dr. De Jaager in the following manner: It was preconcerted that the person on whom the experiment was made should touch the lever of the chronoscope with his right hand when he received an electric shock on the right side, and with the left hand when he received a shock on that side. The interval between the shock and the signal was found to be 0.20 of a second when the subject of a experiment had been told beforehand on which side the shock would be given, and 0.27 of a second when he had not been told; 0.27 had therefore been employed in reflection.

"M. Hirsch, again, has found that on an average two-tenths of a second must elapse before an observer can mark by a signal his perception of a sudden noise or flash of light, and MM. Donders and De Jaager have varied their experiments thus—one of them pronounced a syllable, the other repeated it as soon as heard; when the syllable had been agreed upon beforehand, there was an average delay of two-tenths of a second; when it had not been so agreed upon, of three-tenths of a second. These are, however, only average results, and subject to considerable individual variations."

STEAM STREET CARS WITHOUT FIRE.—A Philadelphia plan which has lately been reduced to experiment, is to supply a locomotive with water heated to a high temperature in a stationary boiler, and forced into a tank attached to the said locomotive. The engine weighs about five tons when ready for work. At the trial it ran forty-five minutes. No noise was heard except the rumbling of the wheels. It was under perfect control. The temperature of the water in the tank is kept up by a non-conducting jacket three inches thick.

PARTING OF GOLD AND SILVER IN THE MINTS.—A movement to procure the exclusion of refining from the operation of the Mint and its branches, has been renewed in both branches of Congress. In the Senate Mr. Stewart, and in the House Mr. Kelly, have introduced bills authorizing the Superintendent of the Mint to exchange unparted for refined bullion with private refining establishments, in whose interest the same proposition has been twice heretofore put forward without success.

VELOCIPEDISTS are using the pavilion of the State Agricultural Society at Sacramento, as a tournament ground, in the presence of numerous spectators.

The Virginia City *Enterprise*, in mentioning practicings on the velocipede at Armory Hall, in that city, says: "Sanguine parties here are already talking of getting up a steam velocipede. The engine will be of brass, and the whole vehicle is to weigh less than 300 pounds.

A Lyonese velocipedist offers to bet any amount that he will beat the fastest trotter in a race.

PRISMATIC GUNPOWDER.—The Prussians have decided on the adoption of prismatic gunpowder for cannon, of a specific gravity of about 1.66.

GOLD CRYSTALS.—At F. Reichling's assay office, No. 334 Montgomery street, may be seen some very perfect Californian and Australian gold crystals, the forms of which are quite dissimilar. Gold crystallizes always in the regular, or tesseral system, characterized by having all the axes of diameter of a crystal equal. The usual and most characteristic form of crystallized gold, in California especially, is the octohedron; a frequent variation is the rhombic dodecahedron, in which but one of the rhombic sides is developed. A very fine breastpin at Richlings, consisting of a group of crystals, from Martinez Creek, in El Dorado County, represents the Californian characteristics. The Australian specimen is a well developed solid dodecahedron of larger size than is common for anything else than octohedrons, and is partially encased at one end in quartz. The Australian crystal is for sale, for a little more than the value of the gold it contains.

THE CHINESE METHOD OF VICCINATING. Dr. Offo, a Chinese physician residing in Oakland, was asked by a scientific gentleman with whom he was conversing on the Oakland boat: "Do you vaccinate in China?" The reply was, "Not like the Americans." "How do you do it?" "Oh, we put it in the nose (making a motion like that of taking snuff), and then comes the fever—all over." "How long is it since they commenced practising that in China?" "Oh, long, *long* ago," (gesticulating). It is stated in the daily papers that very few of the Chinese have died of small-pox in this city.

FIRE-HOSE BRIDGE.—As street railroad cars are frequently stopped in the vicinity of fires, by the hose lying across the track supplying the engine with water, Mr. A. W. Taylor, of Brooklyn, N. Y., (Box No. 139) has invented a convenient bridge which may be carried along on the front platform by the driver, and by which means the car is enabled to continue on its course without injury to the hose. The machine is of iron, is of very simple construction, and can be fastened to the track so firmly that a car is in no danger of being thrown off, or of misplacing the bridge.

DELICATE GLASS FABRICS.—De Brunfaut, in Paris, recently exhibited articles made of spun glass, such as head-dresses, watch chains, curled and smooth ostrich feathers, etc. The usual objection to glass fabrics of brittleness does not apply here, as the thread is as fine as a spider's web. It is not inferior in strength to the best wool, while far exceeding it in beauty. The flexibility of the thread is such that it may be worked in the sewing machine.

THE GRAND EXCURSION ROUND THE WORLD will cost, from New York to San Francisco, by the Pacific Railroad, $150,—time, six days; by the China steamships, from San Francisco to Honkong, and thence to Point de Galle, (Ceylou,) $620—time, forty-four days; thence to Paris via the Red Sea and Mediterranean, $650—time, twenty-five days; and across the Atlantic, $125; total, $1,550, all in currency; total time of traveling, eighty-five to ninety days.

MAYNE REID'S MAGAZINE, "ONWARD."—The February number of this new periodical, dedicated to the youth of America, is a very attractive publication. It is of itself a small volume (180 pages), and is filled with stories, of "magazine size," and illustrations, in which the life-like and telling character,—in short all the good traits of Mayne Reid's books,—are well maintained.

"GLYCONIM" is the name of a substance newly invented by the doctors for protecting wounds. It covers them with a kind of varnish, which protects them from the air, and is made by adding five parts of glycerine to four of yolk of eggs. The mixture has the consistency of honey, has a salve-like feeling, and is unaltered by exposure to air.

TO AFFECT chemical combination, it is generally requsite that one of the bodies shall be in the liquid or gaseous form, and if such is not the case at ordinary temperatures, they have to be produced by the elevation of the latter. Hence the old rule, "*Corpora non agent nisi fluida*," under the erroneous supposition that the fluid or *menstruum* was the only active body, and the solid or *solvendum* a resistance to be overcome. Solid bodies either do not combine at all, or their combination is attended with great difficulty, because from the immobility of their particles, their points of immediate contact are but few, and the exceedingly thin film of compound which may be formed at such points, acts as a partition to prevent further contact, and consequently hinders combination.

EXPLORATION OF ALASKA FIORDS AND RIVERS.—The "Youkon," a flat-bottomed boat, suitable for towing, 50x11 feet, and drawing fifteen inches water when loaded, has recently been built at North Beach, by George Gates, for Capt. R. H. Waterman, to be used in ascending the shallow streams along the coast of Alaska. In general appearance she resembles the two stern-wheel steamers built a few years since for the Russian-American Telegraph Co. She will be taken apart and conveyed to her destination on board a sailing vessel, under the charge of Mr. W. H. Ennis, who is familiar with the streams to be navigated, and the management of boats similarly constructed.

EVAN'S CORRUGATED RIFFLE, to save amalgam from the battery, appears to be meeting with approval, judging from the favorable notices it is receiving from the press and from miners. Some specimens of sand tailings caught by the riffle that otherwise would have passed away, very thickly speckled with quicksilver and amalgam, are shown at S. P. Taylor's store, underneath the MINING AND SCIENTIFIC PRESS office. Riffles extending 30 to 50 feet are claimed to be more efficient than even a much greater length of blankets.

FREIGHT TO WHITE PINE VIA COLORADO RIVER.—Light draught steamers can go up to Colville on the Colorado, whence there is a good level wagon road of about two hundred miles to White Pine; a distance less than twice as far as from Elko to White Pine. The stern-wheel steamer Chin-du-Wan, built at Stockton, last summer, is intended for the navigation of the Colorado river, whither she will proceed in the spring, via the Gulf of California, and it is thought that considerable freight will be conveyed by this route during the summer season to the newly discovered silver region.

NO MEANS have yet been devised of combining the nitrogen (which constitutes 80 per cent. of the atmosphere) with hydrogen, so as to form ammonia. By heat and electricity this union has been attempted without success; but if tin-foilings are placed in contact with water and binoxide of nitrogen, the tin will absorb the oxygen of the two last named substances, while the hydrogen will at the moment of liberation from the water, combine with the nitrogen set free from the nitric oxide, and form ammonia.

THE SUN'S HEAT is transmitted to the earth by radiation; some idea of the amount of which may be gleaned from a rough calculation made by Farraday, to the effect that the average amount of heat radiated on a summer's day upon an area of land in the latitude of London (52°) amounts to as much as would be emitted by the combustion of 240 bushels of coal.

REMARKABLY HIGH TIDES.—The waves at the Ocean Side House swept up to a distance of at least fifty feet beyond the ordinary high tide limit, damaging the road at the Ocean House, and at the Seal Rock House.

FOOT HILL DIAMOND CRYSTALLIZED.—A beautiful specimen of a diamond crystal about a quarter of an inch in diameter, has been on exhibition for some time past in the shop window of Mr. Shreve, the jeweler, on Montgomery street. It is from a locality in Nevada County, where a number of fine crystals of greater size and purity than this have been found heretofore by the same party, all of which have gone into the possession of connoiseurs.

INSTANTANEOUS PHOTOGRAPHY.—It is said that Fox Talbot placed a hand-bill on a wheel revolving two hundred times a second, before a camera. By the light of a single electric spark a perfect and legible copy of the bill was made. Bromide of silver was used in this case instead of the iodide. A marching regiment of soldiers, or a waterfall, may be taken by means of the same agent.

SHIPPING BULLION OVERLAND.—We are informed by reliable authority that several parties interested in mining claims in the White Pine District are making arrangements to ship all their bullion direct to the East from that locality; and that such shipments will be made before the overland railroad is completed.—*Times.*

"THE EL DORADO" is the name of a new eight-page weekly, published by the Ladies' Coöperative Union. All the work is done by female compositors, at No. 517 Clay street.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

Our Office.

The office of the MINING AND SCIENTIFIC PRESS is located in the second story at No. 414 *Clay* street, north side, just below Sansome. Here we have spacious accommodations, with our patent rooms, editorial room, counting room, newspaper and job printing offices,—all conveniently arranged and connected, and our facilities for dispatching business correctly and economically, better than ever before. Don't forget the number—414 Clay street, below Sansome.

DEWEY & CO.

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

O. M. TAYLOR, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office, without fail.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco 6v18-3im

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low 10v17tf

ACROSTIC.

Pain Killer is *worth* what it weighs, in gold,
All around the world are its praises told;
It will Cholera cure—scourge of southern climes,
No victim dies, who takes it betimes.
Keep Pain Killer—a true friend by your side,
It will cure Cough or Cold, or Colic beside;
Look out to apply it for Bruise or for Sprain,
Let it once be tried—"*twill be used again;*
Every word I am telling you, Reader, is true;
Remember that Pain Killer is *good for you.*

The Pain Killer is sold by all Druggists and dealers in Family Medicines.
REDINGTON & CO., and HOSTETTER & SMITH, San Francisco, Cal., General Wholesale Agents. feblm

$20,000 to $25,000.

A PRACTICAL SMELTER wishes to enlist capital to build a Furnace on a Mine of rich Argentiferous Galena at White Pine. From $800 to $1,000 a day can be cleared with ease. Security and best of references, etc., given.

Address, WM F. HILTON,
7v18-1m9p San Francisco, Cal.

J. J. JONES,

CARPENTER and BUILDER,
No. 224 Jackson street, between Sansome and Battery,

Stores and Offices fitted up with neatness and dispatch.
7v18tf

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ESTABLISHED..... .....MAY, 1860.

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PATENT AGENCY.
DEWEY & CO.,

SOLICITORS OF

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SAN FRANCISCO.

Patent Cases of every kind conducted. Attention given to Re-Issues, Extensions, Interferences, Rejections, Appeals, etc., etc.

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Consultation, by mail or otherwise, strictly confidential. Advice free.

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The inventors of the Pacific Coast, of all others, should be careful to patronize only well known RESPONSIBLE agents.

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FOR
MINING COMPANIES
AND
MANUFACTURING CORPORATIONS

HANDSOMELY PRINTED

AT GREATLY REDUCED RATES

At the Office of the

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ALSO,

BLANKS, RECEIPTS

And STOCK BOOKS

In the most approved form.

Our experience is large in this line of printing, and we are bound to give satisfaction in prices and work.

DEWEY & CO.,
414 Clay Street.

PACIFIC
Rolling Mill Company,

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Established for the Manufacture of

RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,

Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY Post Office, San Francisco, Cal., will receive prompt attention.
☞ The highest price paid for Scrap Iron. 9v14-3m9p

Crucibles.

The Patent Plumbago Crucible Co.,

Manufacturers of all kinds of

Melting Pots, Portable Furnaces,

CRUCIBLES, and other fire-standing Goods.

Battersea Works, London.

THE MORGAN PATENT CRUCIBLES have uniform quality, never crack, withstand the greatest heat without danger; heats more rapidly than any other; change of temperature has no effect on them; stand on the average forty to fifty pounrings.

On hand and for sale by the Agents,

A. S. HALLIDIE & CO.,
1v18-3m9p. 519 Front street, San Francisco

To Quartz Millmen.

Original Hidden Treasure Mining Company.

NOTICE.—Proposals are invited for ten days from date, for the Crushing of 10,000 tons of Ore, to be taken from the Mine of the Original Hidden Treasure Mining Company, White Pine

Parties bidding will specify price per ton, terms of payment, and date of commencing and completion of contract.

By order. DAVID T. BAGLEY,
Secretary Original Hidden Treasure Mining Co.
Office, No 401 California street.
February 9, 1869. 7v18 1t

DROP LETTERS.—It should be distinctly understood that drop letters, when sealed, require but ONE CENT postage in towns or cities where there is no free delivery by carriers.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hausbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.
San Francisco, May 1, 1868. 18v16tf

WILLAMETTE IRON WORKS,
PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,
18v13-1y One block north of Couch's Wharf.

Globe Iron Works,

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KEEP & BARGION,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.
13v13tf

J. NEWSHAM. J. BOWOOD.

SOUTH BEACH IRON WORKS,

Near corner of King and Third streets, San Francisco.

MARINE ENGINES,
AND ALL KINDS OF

MACHINERY FORGING.

All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. GALLAGHER. J. H. WEED V. KINOWELL.
9v13-1y

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—AND—
MACHINE WORKS
Nos. 245 to 255 First Street,
San Francisco.

HOWLAND, ANGELL & CO.,
PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS.	**FLOUR MILLS,**
SAW MILLS,	**SUGAR MILLS,**
POWDER MILLS,	**PAPER MILLS**

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS
OIL WELL TOOLS, ROCK BREAKERS,
—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE.

The most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,
13v14-qr **CYRUS PALMER.**

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,
MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,
BOILER MAKERS
AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers**, with plain circular or spiral seams. Upright Flue or Tubular Boilers, Locomotive and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, head of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care.

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

UNION IRON WORKS,
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WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
CROSS' PATENT BOILER FEEDER,

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,
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THOMPSON BROTHERS,
EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,
of every description, manufactured 24v16qr

JAMES MACKEN,
COPPERSMITH,
226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.
13v11

G. T. PRACY.
MACHINE WORKS,
NOS. 109 and 111 MISSION STREET,
Between Main and Spear.

New and second-hand
Engines and Boilers,
FOR SALE.

Also one first class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF
Lathes, Drills,
And MILL MACHINERY of every description.

PRACY'S
New and Improved
STEAM ENGINE
REGULATORS,

The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S
Shingle Machines
on hand.

Particular attention paid to Repairing.

☞ All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

THE RISDON
Iron and Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,000,000.
Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.
Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Bevoc, Binsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch.

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Lloyd Tevis,	John N. Risdon,
Jas. Pollock,	Joseph Moore.
Gen. Holladay,	

JOHN N. RISDON, President.
Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 24v17-qy

NOBLE & FLEMING,
MACHINE WORKS,
No. 10 Stevenson street, near First,
SAN FRANCISCO.

Particular attention given to repairs on Portable and Stationary Engines; also all kinds of Wood Working Machinery; Shafting, Hangers, Pulleys, etc. made to order; Screw Cutting, Iron Planing, and all kinds of JOB WORK promptly attended to.

Agents for F. S. Perkins' Engine Lathes, Planers, Upright Drills,

And all kinds of MACHINISTS' TOOLS; also the Davis Wood Planer and Mitre Dove-Tailing Machines.

☞ Also, on hand for sale a complete set of Tools for making Blacking Boxes, consisting of Press, Dies, Shears, and Crimping Machine, etc. 4v18-qr

Phœnix Iron Works.

JONATHAN KITTREDGE, Proprietor,
Nos. 18 and 20 Fremont street, near Market,
MANUFACTURER OF

Fire-Proof Doors, Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;

BANK VAULTS AND MONITOR SAFES,
FORGING AND MACHINE WORK.

Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the
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CITY IRON WORKS COMPANY.

CLERC & CO.,
IRON FOUNDERS,
Steam Engine Builders and Makers of all kinds of Machinery,
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Constitution and By-Laws
—FOR—
Mining and Prospecting Companies

Elegantly printed, with care and dispatch, at the office of the
Mining and Scientific Press.
Orders from the interior faithfully attended to.

Resources and Developments.

COL. LARRABEE has imported a lot of bamboo plants from China, which he thinks will grow at Los Angeles.

SILK IN THE FOOT-HILLS. — Nevada County has 50,000 mulberry trees, being the only mining county that has made a commencement in the silk business.

SILK REELING.—Fifty Chinese families, well versed in silk reeling, have been sent for by the filature about to be established at Los Angeles. Cocoon growers will find ready sale for all they can raise.

UMPQUA VALLEY OUTLET.— The new road now building from Umpqua Valley to Coos Bay, will bring that valley within forty miles of tide water and the numerous vessels in the San Francisco lumber and coal trade of Douglas County, Oregon.

WOOLEN MILL AT CHICO. — The Chico *Courant* urges the erection of a woolen mill, or the transformation of Gen. Bidwell's large brick building at that place, into an establishment of the kind, to be carried on by a joint stock company of farmers and sheep raisers, in shares of $50.

WOOLEN FACTORIES IN OREGON.—Parties are endeavoring to obtain water-power at Eugene City,—says the *Journal*,—to put up a woolen factory, to cost $90,000. The Ellendale Woolen Factory is in active operation. The factory at Brownsville is still closed.

A FIG ORCHARD to contain a thousand trees of the large purple Smyrna variety is being planted at Mormon Island, Sacramento County. The figtrees exceedingly well in the foothills, to an elevation of 1,000 feet. Domestic dried figs sell readily at twenty-five cents per pound, retail. They will soon be produced in large quantities for exportation.

A GREAT VINEYARD.—The Buena Vista Vinicultural Association has 290,232 vines set out in vineyard, covering 426¼ acres, or an average of 680 vines to the acre; from which last year 96,000 gallons of wine were made. This is,—says the *Alta*,—the largest vineyard, or, at least, wine-growing estate in the world, though not the most profitable.

OYSTERS FROM MEXICO.—The steamship *John L. Stephens* brought up, consigned to the Mexican Oyster Company, a supply of toothsome bivalves in good order, the first shipment this season. They resemble the Harlem River oysters more than any other on the Atlantic side. Three of them fill a big plate. Next season this company will be able to supply the whole coast from their beds in Mexico, the location of which is kept a secret. They are brought in tanks of water from Mazatlan.—*Times*.

WOOLEN MILL AT SANTA ROSA.—A meeting of the citizens of Santa Rosa, Sonoma County, was held on Wednesday, February 4th, to consider the proposition of building a woolen mill there. Estimated cost $30,000. The subject was discussed at the meeting, and steps were taken to forward the object in view. Energy and liberality among our business men and capitalists,—says the *Democrat*,—would add at least a thousand persons to the population of Santa Rosa within a year.

LOCAL RAILROADING.—The monthly receipts on the San José and Santa Clara Railroad average $1,000, and are expected next summer to double that amount. The owners of the road are discussing the question of substituting cars driven by steam-power similar to those of a company in Brooklyn. The fuel used in these is petroleum, a jet of which is thrown by every revolution of the car wheels, upon a small quantity of burning coal, which serves as a kind of wick. The time would be reduced to twenty minutes—about half of that now occupied.

SOUTH SAN FRANCISCO.—At a meeting of the representatives of the South San Francisco Dock, and of the Bay View Railroad companies, etc., held on Monday evening, it was stated that the cost of clearing out the Potrero Cut sufficiently wide to lay a double track, and of placing on the line a sufficient number of cars and horses, would be about $150,000. If trips be made every fifteen minutes, and only one fare charged from the foot of Fourth street to Bay View, the Dock Company will pay $25,000, and other associations and property-owners in that vicinity contributing in the same proportion, it is thought will swell the amount to $75,000. A number of manufacturing establishments, and quite a little village, have grown up in that vicinity. Boiler works will be established in South San Francisco by Messrs. Tevis & Risdon.

WOOL GROWING IN THE FOOTHILLS. — As lands in California are becoming rapidly settled, sheep ranges are becoming scarce.

Nowhere can better ranges be found, says the Folsom *Telegraph*, than in the foothills. The mild climate, shelter and good feed is unequaled all the year round. Parties purchasing five or six quarter sections of land, and starting with four or five hundred head of sheep, can have a nice little fortune in four or five years. The rapid increase in the annual clip of wool, now 42-fold what it was thirteen years ago, shows that sheep farming is a profitable business to all concerned. According to these figures, the man who, in 1855, had 100 ewes, should have now 4,200 sheep. Besides this increase of his principal, he has enjoyed an annual income from his wool.

MORE PETROLEUM DISCOVERED IN MEXICO. Lately petroleum has been discovered on the Pacific shore of Southern Mexico, near Port Angel, in latitude 15° 38' north, distant southeast 180 miles from Acapulco. Oil is obtained from four springs, and the formation is said to be sandstone, lying horizontally over shale. In two of the wells excavations have been made with crowbars; at a depth of about 16 feet the oil began to run out so fast that the men could not work in the holes, and not only did the oil run faster as the diggers went down, but it came lighter and thinner. Vessels can at all times anchor safely in Port Angel, from whence there is a good road to Oaxaca, the capital of the State, on to Puebla and Mexico. Native labor is 50 cents per day, without board, and may be depended upon.

NUT GROWING.—The planting of nut-bearing trees, looked at from a financial point of view, is thought to be worthy of deliberate consideration, as the demand for nuts is beyond home supply, and if already and remunnerative market cannot be obtained at one's door, the nuts will bear shipment and keeping. The streets in towns and roads throughout the country could be set out with nut-bearing trees at slight expense, no loss of soil, and with profit to the owners of land contignous to the thoroughfares. The chestnut, butternut, hickory, almond, English walnut and black walnut, where the climate will admit and soil justify, are all beautiful shade-ornamental trees. They can be transplanted while young with a loss not to exceed ten per cent.; grow rapidly, and come into bearing usually from the seventh to the tenth year from seed.

THE GREAT INTERIOR.—Of the inexhaustible mineral resources of the vast basin rimmed by the Sierra and Rocky mountains,—says the Sacramento *Union*,—no doubt remains. But this great interior, now silent and treeless, has a greater capacity for agriculture than many suspect. C. W. Dilke notes the resemblance in many respects to similar situations in Algeria and Australia, and predicts that here, as there, even the deserts may be made to bloom. The sage brush is seen to be gradually encroaching upon the sands. All that is needed, he believes, is irrigation; and this may be obtained by means of artesian wells, flowing of themselves or operated by windmills; or by means of dams and reservoirs, economizing the melted snows of the mountains, as in Algeria. Even the alkali plains may, he believes, be thus redeemed; for in Algeria it has been found by the French farmers "that under irrigation, the more alkali the better the corn crop." The process of desert reclamation will therefore be, first, irrigation; second, planting of fruit trees, corn, vines, and other plants which shade the soil; then, with increasing moistnre, other products may be introdnced.

GEO. E. ROGERS,
(Successor to C. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MAES, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qr10pnr

CARPETS, OIL CLOTHS, DRAPERIES,
SHADES, Etc., Etc.
LOUIS F. KNIGHT,
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MINERAL LANDS VS. RAILROAD GRANTS.—It seems, according to the Sacramento *Bee*, that the recent test suit in the Placer County District Court, between the Central Pacific Railroad Company and miners and ditchmen along the road, has been decided against the railroad company, viz., to the effect that the Government did not grant to the railroad company mineral lands; but the case, it is said, will be carried up, so that it will lead to a final decision. H. H. Fellows, connsel for the miners, states the legal position attempted to be maintained hy the attorneys for the opposite side thus: If "A" conveys to "B" twenty acres of land, and, in a subsequent part of the deed, excepts from the operation of the conveyance "one acre" there, the reservation is not valid, being inconsistent with the granting clause; and that the same principle would apply to the reservation of mineral land. The attorney of the railroad company, and Gen. Redding, their land agent, assisted Messrs. Tweed & Craig, the attorneys of record, on the trial of the case.

SUBMARINE EARTHQUAKE PHENOMENA.—The following interesting facts were observed by Capt. Christi, of the bark Euphrosyns in Lat. 16° 42′, Lon. 4° W., and are copied from the London *News:*

The sky suddenly became overcast with dense black-looking clouds, and in all directions was heard a noise resemhling distant cannonading, while the sea became tossed and confused. To these signs of agitation another was added of peculiar significance. The compass vibrated largely and almost lost its polarity, a sure sign that a terrestrial disturbance of great extent and violence was in progress. Several large meteors shot out from the heavens. Fish jumped out of the sea and struck against the sides of the ship. The volcanic action of the sea continued during the night until sunrise, when the weather became clear and settled.

PROPOSED ATLANTIC BALLOON VOYAGE IN MAY.—Prof. Chevalier, a celebrated French aeronaut, recently arrived in New York city, announces his intention to make the attempt of an aerial voyage across the Atlantic. The Professor in his European exploits made a voyage from Paris to Russia, distance seven hundred miles, in five hours. Mons. Chevalier says it is his intention to demonstrate the continnous belts of currents which are presumed to exist at an elevation of ten thousaud feet. His vessel, the *L'Esperance*, is 90 feet in hight, 150 in diameter, and requires 120,000 cubic feet of gas. The car is inclosed, resembles a bamboo hut, and will contain fifty-two persons.

SUMMER OF 1869.—Expectation, commercial and social, was never so lively in this nation as during this season. Especially this may he said with regard to Californians. Folks are ou tiptoe for spring developments. Who will have this or that "trade?" What are the best plans for securing this or that market? And there are very few of our people, who have their native homes in the Eastern States, who are not either expecting a visit from relative or olden and near acquaintance, via the Pacific Railroad, next summer, or intending to make the overland trip to the places where they resided in childhood days. There is going to be a vast amount of cordial handshaking across the continent this year. The Grand Lodge of Odd Fellows holds its National Convention in this city next September—a gathering to be reminded of in this connection.—*S. F. Times.*

GAS AND WATER FOR MAZATLAN.—Messrs. Howell & Larriaga have obtained the privilege of maintaining gas works in Mazatlan, for the term of twenty-one years, and the schooner "Montana" has landed the necessary materials on the ground, all of which are to be in use within three months. Mr. Howell has engaged the services of a Mr. Cole to test the possihility of supplyiug that city with good water by artesiau wells.

COCOS ISLAND treasure hunting expeditions agree with the adventurous tastes of Californians, and seem destined to he repeated again and again, for the edification of those who will court romance at the expense of failure. Another party just heard from via Panama, has returned, worn out and disgusted. They spent nineteen days there in the vain pursuit, looking for the hidden riches, and then gave up the hunt as entirely Utopian.

DR. HAYES has been lecturing on Arctic Researches before the New York Geographical Society. He is willing to try again to explore the Northern Ocean, which he says is never frozen.

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JAMES RICE, Secretary.
Office, No 615 Kearny street, San Francisco. feb13

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

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J. M. BUFFINGTON, Secretary.
Office, 37 New Merchants' Exchange, California street, San Francisco. jan16

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of January, 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, San Francisco, California.

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J. CROWNINSHIELD, Secretary.
Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. jan30

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

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WM. B. LAKE, Secretary.
Office, 430 Montgomery street, San Francisco. jan16

Rattlesnake Mining Company, Brown's Valley, Yuba County, California.

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Names.	No. Certificate.	No. Shares.	Amount.
Agard, W R	18	44	$330 00
Agard, M F	19	100	750 00
Ausiglioni, H	5	6	45 00
Bradley, M	not issued	30	225 00
Bradley, A	not issued	5	37 50
Babb, L H	not issued	25	187 50
Brown, J	6	20	150 00
Beausseg, A C G de	27	20	150 00
Colton, J	not issued	10	75 00
Cavallier, J B E	3	10	75 00
Cavallier, J B E	25	91	682 50
Coarcelle, A	7	46	345 00
Ely, L	not issued	10	75 00
Findley, Thos	26	49	367 50
Fischer, W	9	45	337 50
Gray, C M	not issued	60	450 00
Hawley, W	not issued	39	292 50
Hawley, Mrs S	not issued	6	45 00
Huarl, A N	1	210	1575 00
Huard, L H	2	20	15 00
Kelly, M J	13	20	150 00
Lawson, R F	not issued	49	367 50
Lamory, E	11	100	750 00
McAllis & Gordon	14	5	37 50
McAllis & Gordon	15	10	75 00
McAllis & Gordon	16	10	75 00
McAllis & Gordon	17	20	150 00
Mattat, M	4	20	150 00
Noel, A	12	20	150 00
Ruggles, B W	not issued	10	75 00
Smith, J B	not issued	10	75 00
Vitte, J	not issued	5	37 50
Wessels, S C	not issued	10	75 00

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of December, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the eighth day of February, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOUSE, Secretary.
Office, 318 California street, up stairs, San Francisco. j23

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For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

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Patent Rights for Sale.

For Preserving Timber from Decay

The cheapest method for curing Wood.

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WOOD PAVEMENT,

MILLER'S PATENT.

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India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,
Iron, Brick and Wooden Buildings,
SHIPS, STEAMBOATS, STAGES, CARS,
AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

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PRICES REDUCED!
MACHINES OF ALL SIZES FOR SALE
—BY—
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Iron and Metal Importing Company
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Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.
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AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,
Etc., Shear, Spring, Cornan, Plow, Blister and Toe Calk Steel; manufacturers of
Mill Picks, Sledges, Hammers, Picks,
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,
Have removed to **13 and 15 Fremont street,** near Market, San Francisco.
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Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.
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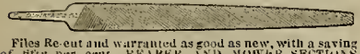

Files Recut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.
2v17-3m **T. G. DURNING & CO**

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Blacksmith and Machine Shop,
HAS REMOVED
To 143 Beale St., bet. Mission and Howard,
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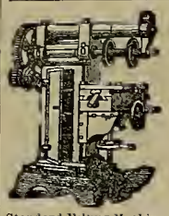
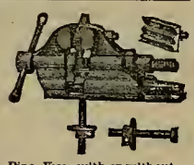
All kinds of Edge or other Tools made to order. Imported Tools, if too hard or soft, re tempered to give satisfaction. REAPER AND MOWING KNIVES; complete sections always on hand, or will be made at the shortest notice. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted. Prices reasonable.
21v17-qy **J. WEICHHART, Proprietor.**



Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.
23v16-1y G. H. NOTT, Pres.

PATENT
Boiler Scraper and Tube-Cleaner.

IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

Portable Engines.

The Swamscot Co's (warranted equal to any manufactured, may be seen in use in this city), PORTABLE and STATIONARY STEAM FIRE ENGINES, STEAM PUMPS and ROTARY PUMPS, and WOOD-WORKING MACHINERY of every description, at Eastern prices. Address W. O. M. BEARY & CO., **511** California street, San Francisco.
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WM. H. TOBEY & CO.,
RAILROAD ADVERTISING AGENCY,
641 Market street,
Between Second and Third streets (up stairs).

FRAMES, CARDS, CIRCULARS, POSTERS,
Etc., put up in all the Cars and Depots of the San Francisco and San Jose Railroad.
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A BIT PAPER.
The Largest Circulation in the County.

Advertisements in the Transcript will reach every part of Alameda County.

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VERY LOW.

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The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

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MARBLE WORKS,
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Mantels, Monuments, Tombs, Plumbers' Slabs
Etc., On hand and Manufactured to order.
☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

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ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.
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J. M. STOCKMAN,
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J. F. PAGES,
SEAL ENGRAVER,
AND LETTER CUTTER,
Brass and Steel Stamps and files, **608** Sacramento street, San Francisco. Orders by express promptly attended to.
6v16

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JOHNSON & BEST,
Manufacturers of all kinds of
Desks and Office Furniture,
717 Market street, near Third.
Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.
18v17qr

Novelty and Usefulness Combined.
Wilson's Prepared Solder
Dispenses with the Soldering Iron.

It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire.
Agency for the Pacific Coast, Room No. 10, No. 423 Washington street, San Francisco. AGENTS WANTED.
Address P. O. box 17. 23v17tf

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SULPHURIC ETHER.
SPIRITS OF NITRE,
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ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
FALKENAU & HANKS,
Office and Laboratory, Sixteenth street, between Folsom and Harrison.
LOUIS FALKENAU, State Assayer.
☞ Particular attention paid to the Analysis of ORES, MINERALS METALS, etc. 8v1f

BELDUKE & CO.,
OF CONCORD, N. H.,

Long employed at the celebrated firm of Downing & Son, have opened a manufactory of
Concord Wagons,
Of all descriptions, at No. **820** and **822** Folsom street, between Fourth and Fifth streets, San Francisco.
Orders received for Buggies, Expresses, and Light and Heavy Thorough-brace. Carriage Springs made to order.
18v15-1am-6m

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

Owen and Darwin.

A chapter from the forthcoming edition of Prof. Owen's "Anatomy of Vertebrates" is given by the *American Journal of Science and Arts*. The respective hypotheses of the two philosophers are therein constrasted,—Owen's "Derivations" and Darwin's "Natural Selections." We quote:

According to my derivative hypothesis, a change takes place first in the structure of the animal, and this when sufficiently advanced, may lead to modifications of habits. As species rise in the scale, the concomitant change of structure can and does lead to change of habits. But species owe as little to the accidental concurrence of environing circumstances as Kosmos depends on a fortuitous concourse of atoms. A purposive route of development and change, of correlation and interdependence, manifesting intelligent Will, is as determinable in the succession of races as in the development and organization of the individual. Generations do not vary accidentally, in any and every direction; but in preördained, definite, and correlated courses.

"Derivation" holds that every species changes, in time, by virtue of inherent tendencies thereto. "Natural Selection" holds that no such change can take place without the influence of altered external circumstances educing or selecting such change.

"Derivation" sees among the effects of the innate teudency to change, irrespective of altered surrounding circumstances, a manifestation of creative power in the variety and beauty of the results; and, in the ultimate forthcoming of a being susceptible of appreciating such beauty, evidence of the preördaining of such relation of power to the appreciation. "Natural Selection" acknowledges that if ornament or beauty, in itself, should be a purpose in creation, it would be absolutely fatal to it as a hypothesis.

"Natural Selection" sees grandeur in the "view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one." "Derivation" sees, therein, a narrow invocation of a special miracle and an unworthy limitation of creative power, the grandeur of which is manifested daily, hourly, in calling into life many forms, by conversion of physical and chemical into vital modes of force, under as many diversified conditions of the requisite elements to be so combined.

"Natural Selection" leaves the subsequent origin and succession of species to the fortuitous concurrence of outward conditions: "Derivation" recognizes a purpose in the defined and preördained course, due to innate capacity or power of change, by which homogeneously-created protozoa have risen to the higher forms of plants and animals.

The hypothesis of "derivation" rests upon conclusions from four great series of inductively established facts, together with a probable result of facts of a fifth class; the hypothesis of "natural selection" totters on the extension of a conjectural condition, explanatory of extinction to the origination of species, inapplicable in that extension to the majority of organisms, and not known or observed to apply to the origin of any species.

FOURIERESTIC COLONY.—A company has been formed in this city of men who propose to emigrate with their families to White Pine in the spring, in which the principle of coöperation has been carried to the Fourier limit. The company consists of twelve men, their wives and little ones. They are having their house framed on the Truckee; ready to be freighted piece-meal to Treasure City in March. A "corner grocery store" will occupy one angle in the building; the company members will all reside in the house, and have rooms to spare for strangers; they will keep a hotel as well as a grocery, and the wages and mining speculation investments and profits will be in community. A wing of the main building is to be devoted to the brewery business, and the erection of a small flouring and feed-mill is among the list of enterprises contemplated by this company.—*S. F. Ex.*

THE BITUMINOUS SHALE AT ELKO is of a light, yellowish-brown color, and upon being ignited in the flame of a candle burns readily, with a clear flame and much heat. While burning it gives out no bituminous smell. A quantity being put in a stove at Elko and a full draft turned on, it burned so fiercely that the whole stove—and pipe for some feet above—was heated red hot, and the stove plates cracked in two or three places. The shale resembles the petroleum-soaked rock found in Butter Creek Valley, though no traces of oil are to be seen in it while burning.

MINERAL STATISTICS. — Ross Browne gives the following statistics of the production of the precious metals in this country, since 1848:

Total product, $1,300,000,000; of which California furnished over $900,000,000, Nevada $90,000,000, and Oregon $20,000,000; waste on account of imperfect or improvident mining $300,000,000,—which is attributed to reckless haste and impatience. The present yearly product he estimates at $75,000,000, of which $25,000,000 comes from this State, $20,000,000 from Nevada, $2,000,000 from Oregon, $18,500,000 from Idaho and Montana. Colorado has produced altogether only $25,000,000, and now yields but $2,500,000 yearly.

The product of California is now derived as follows: From surface diggings, $2,000,000; from cement or deep-lying placers, $18,000,000; from quartz mines, $9,000,000.

In many parts of Nevada, silver ores bearing $100 a ton, and in Montana and Idaho, gold ores of $50 a ton "will not justify working."

COLOR-BLINDNESS.—Dugald Stewart could not distinguish between red and green, and John Dalton did not know blue from crimson. In the solar spectrum, instead of red, orange, yellow, green, blue, indigo and violet, Dalton only saw three colors, yellow, blue and violet. He could distinguish no difference between the scarlet gown of a cardinal and the foliage of the trees; and when one day he dropped a piece of red sealing wax in the grass, he had great difficulty in finding it again. Mr. Dalton's case has given rise to the term *Daltonianism*, which is now generally applied to this kind of color-blindness.—*Gas Light Journal.*

GLACIERS.—"In a former age the whole United States was covered with ice several thousand feet thick, and this ice, moving from north to south by the attraction of tropical warmth, or pressing weight of ice and snow behind, ground the rocks into the paste we call the soil. These masses of ice can be tracked as surely as game is tracked by the hunter. The stones and rocks ground and polished by the glaciers can easily be distinguished from those scratched by running water. The angular boulders found in meadows and the terraces on our rivers not now reached by water, can be accounted for only in this way."—*Prof. Agassiz.*

THE OLDEST TREE IN EUROPE is asserted to be the cypress of Somma, in Lombardy, Italy. This tree is believed to have been in existence at the time of Julius Cæsar, forty-two years before Christ, and is, therefore, 1901 years old. Superior antiquity is claimed for the immense tree in Calaveras County, which is supposed, from the number of concentric circles in the trunk, to be 2,565 years old.

RAINFALL DATA.—The Los Angeles *Star*, of January 23d, says farmers are beginning to stop plowing, in consequence of the continued drought.

CALIFORNIA
BUSINESS UNIVERSITY
204 Montgomery Street.

Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
17v17-qytfp E. P. HEALD, San Francisco.

OCCIDENTAL
Insurance Company,
OF SAN FRANCISCO.
Cash Capital, - - - - - - $300,000
GOLD COIN.
Office S. W. corner of Montgomery and California streets.

Fire and Marine Insurance.
All Losses paid in U. S. Gold Coin.
CHR. CHRISTIANSEN, President.
B. ROTHSCHILD, Secretary. 20v17-3m

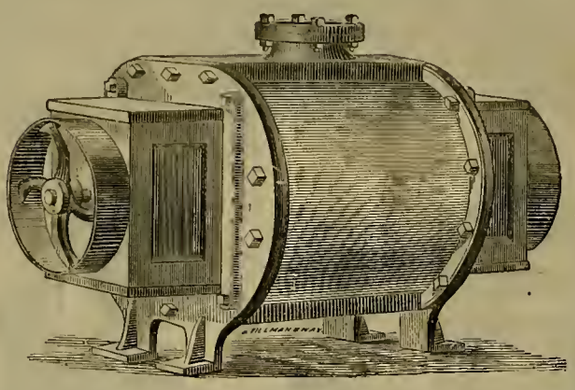
A WARNING
TO ALL WHO ARE AFFLICTED.

Before the rainy season comes get cured of Rheumatism and Neuralgia, by herbs only. The receipt was given some years ago by an old Indian in New Orleans, and it has never failed to cure all it says. Many have been cured in this city and in Boston, and all say it is the best they have tried. Manufactured by MRS. MARY HIGGINS, Oregon street, two doors west of Drumm. Orders sent by mail or express attended to on receipt of $5 per bottle. 22v17-3m

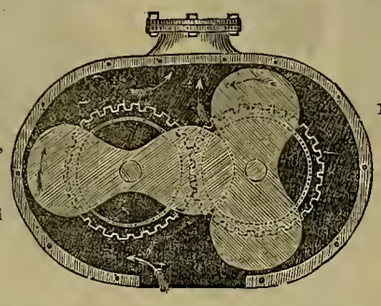
Small Pox.

We have been shown by Wm. Zelner, the best and most convenient and portable apparatus containing Chlorine, for rooms, which we consider the best disinfectant out, and should advise all housekeepers not to be without one. Price $1, complete; to be had, with full directions, at WM. ZELNER'S German Drug Store, 18 Geary street, 25v17-3m

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.
Awarded the First Premium at the Paris Exposition.



ADAPTED FOR Smelting, Foundry, Mining and Steamships.



REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

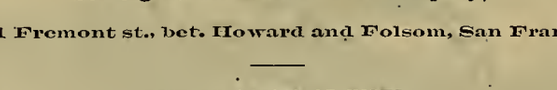
One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP & BARGION,
4v16-3m Globe Iron Works, Stockton, Cal.

JOHN WRIGHT & CO.,
—DEALERS IN—
PICKS AND PICK HANDLES.



Sole Agents for Washoe Tool Company,
No. 231 Fremont st., bet. Howard and Folsom, San Francisco.

LIST OF PRICES OF PICKS:

No. 1	Round Eye surface,	4	lbs.	$16	No. 17	Drifting	4½	lbs	$18
" 2	" "	4½	"	16	" 18	"	6	"	18
" 3	" "	6	"	18	" 19	"	6½	"	20
" 4	" "	6½	"	18	" 20	"	6	"	20
" 5	" "	6	"	20	" 21	Poll	4	"	18
" 6	" "	6½	"	20	" 22	"	4½	"	18
" 7	" "	7	"	24	" 23	"	6	"	20
" 8	Flat Eye surface	4	"	16	" 24	"	5½	"	20
" 9	" "	4½	"	16	" 25	"	6	"	22
" 10	" "	5	"	18	" 26	"	6½	"	24
" 11	" "	6½	"	18	" 27	"	7	"	30
" 12	" "	6	"	20	" 28	Coal	2	"	15
" 13	" "	6½	"	20	" 29	"	2½	"	16
" 14	" "	7	"	24	" 30	"	3	"	16
" 15	Drifting	3½	"	16	" 31	"	3½	"	16
" 16	"	4	"	16					

Also PICK EYES ready for the steel, for the Blacksmiths, which will be sold cheap.

I wish to call special attention to my
NEW ADZE EYE PICK,
Which was made under my own supervision while in New York. For BEAUTY, STRENGTH and DURABILITY, they are unequaled.

JOHN WRIGHT.

We have a large stock of EXTRA NO. 1
WHITE HICKORY DRIFTING PICK HANDLES,
WHICH WE OFFER CHEAP.
CALL AND EXAMINE FOR YOURSELVES.
12v12-3m1am

Metallurgy.

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PIONEER MINING SCHOOL,
—AND—
METALLURGIC WORKS.

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Chemistry, Assaying and Metallurgy,

That I am prepared to teach all the above branches in less time than in any European School.

I also undertake to assay and work any kind of ore, or mineral substances.

For terms, apply to JOS. MOSHEIMER,
Practical Chemist and Metallurgist.
Office, 328 Montgomery street; Metallurgic Works, 2005 Powell street, San Francisco. 6v18-6m

LEOPOLD KUH,
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(Formerly of the U. S. B. Mint, S. F.)
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BULLION MELTED AND ASSAYED.

The correctness of which is guaranteed in every respect. All kinds of Ore and Mineral tested, assayed and analyzed in the most satisfactory manner.

Refers by permission to W. C. Ralston, Cashier Bank of California; Messrs Ploche & Bayerque, Wm. M. Lent, John D. Fry, E. Cahill & Co., A. K. Grim, President Pacific Union Express Co.; John M. Eckfeldt, M. and R. U. S. B. Mint; Hale & Norcross S. M. Co., and the principal mining companies on the Comstock Lode. 25v17-tf

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IMPORTERS,
AND DEALERS IN
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WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior
ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CANES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.

A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.
San Francisco March 6, 1865. 11v10-tf

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Formerly Chemical Examiner in the U. S. Patent Office may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞Written communications preferred.

Important to Gold and Silver Miners and Companies.
PROFESSOR WURTZ,
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Fig. 1

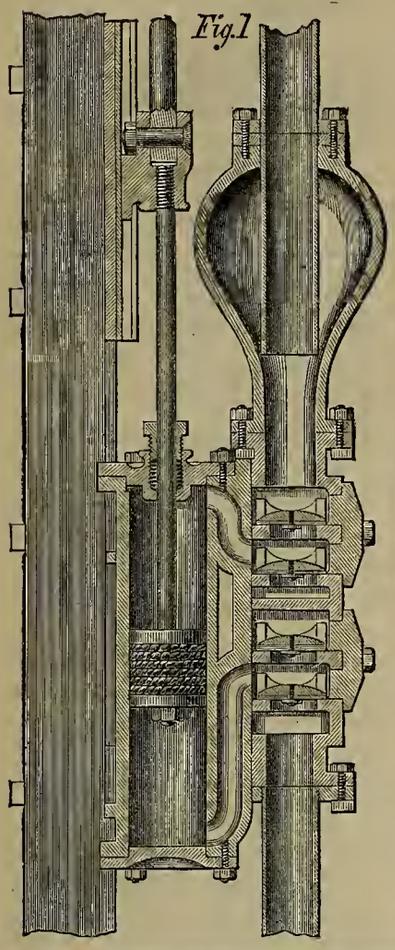

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Fig. 2

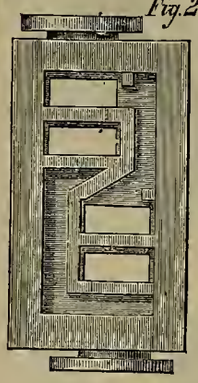

Fig. 3.

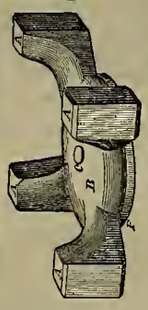

Fig. 4.

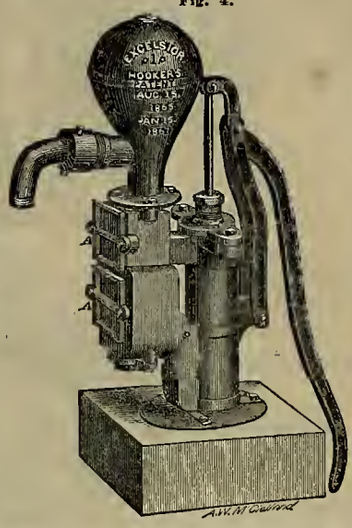

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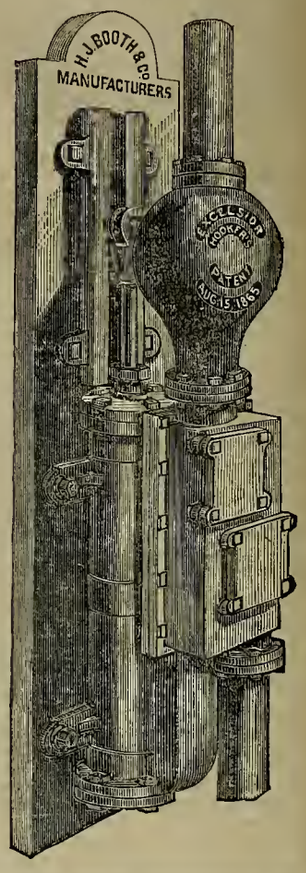
Fig. 5.



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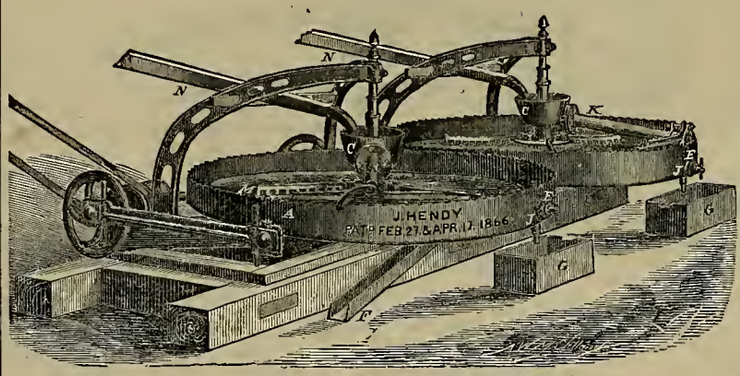

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MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Arizona, Idaho, Nevada, Oregon, and Utah
New Patents and Inventions.
San Francisco Mining Share holders' Directory.
San Francisco Metal Market.
San Francisco Market Rates.
Notices to Correspondents.
Stock Prices—Bid and Asked.

VAN NOSTRAND'S ECLECTIC ENGINEERING MAGAZINE.—We have received the first number of a new monthly magazine with the above title,—large octavo, having ninety-six pages filled with the most valuable reading matter to engineers and mechanics, and published at $5 a year, or fifty cents a number. The editor is Alexander L. Holley, of the Troy Bessemer Works. From the word "eclectic," as well as from the introduction of the editor, it may be inferred that most of the leading articles are to be copied from English, French, and German engineering periodicals; at the same time that the American field is to be properly canvassed for the kind of matter that is required by the profession in this country. In view of the fact that the American materialistic penchant has so much to do with engineering, and has developed a great deal in that field which is new to the old world, it seems strange, now that we see before us an American magazine devoted specially to the subject, that we have not had anything of the kind before. But we have only to bear in mind how very undeveloped, comparatively, our country, with all its promising special fields, has been up to the time of the war, and to the building of the Pacific Railroad. This engineering magazine is a desideratum, which, if not very seriously mismanaged, cannot fail to become speedily an institution and a power in the land. Amongst the leading papers, are: Excavating in Quicksilver, by W. J. McAlpine, from a report read before the American Society of Civil Engineers; Composition of Steel, translated from the Berg and Hütten-Zeitung, by John B. Peavse, M. E.; Freight Locomotives; Rubber Tires; Preserving Timber; Liquid Fuel; Railway Accommodations, etc.

UNDERGROUND LIFE, OR MINES AND MINERS.—We have received from H. H. Bancroft & Co., a large octavo volume of this title, containing 520 pages, splendidly printed, and illustrated by 160 artistic engravings on wood, 20 maps geologically colored, and 10 plates of metals and minerals, chromo-lithography; by Prof. L. Simonin, of the Paris *Ecole des Mines*, who visited Colorado eighteen months ago. The work is translated and adapted to the present state of British mining, and edited by H. W. Bristow, F. R. S.; published by D. Appleton & Co., New York. Further notice will be made of the book in our next issue.

Mechanical Movements.

We continue (from page 49) our illustrations of mechanical movements:

67. Rectilinear into circular motion. Pawl on one arm acts on the wheel when the rod moves in one direction, and the other when the rod returns.

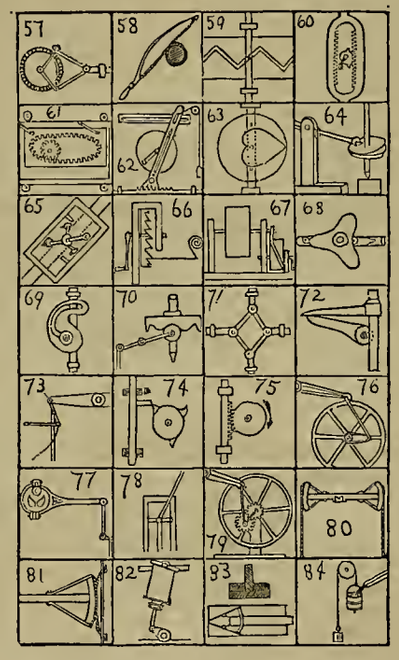
68. Fiddle drill, used by watch-makers. String of the bow passes round the pulley on spindle of the drill

69. Reciprocating into circular motion by up and down motion of pin on the slide, in zig-zag groove on cylinder.

60. Reciprocating into rotary motion.

61. Reciprocating motion to a frame by means of endless rack and pinion.

62. Imparting a reciprocating rectilinear motion to a toothed rack by a toothed segment secured to a lever-arm, which is subjected to the action of a weight, and of an eccentric wrist-pin, projecting from the side of a revolving disk.



63. Rod reciprocates by means of heart-shaped cam.

64. Converting continuous revolving into reciprocating revolving motion by a cam-disk acting on an oscillating lever.

65. Revolving into reciprocating rectilinear motion, by means of roller-arms, extending from a revolving shaft, and acting on lugs projecting from a reciprocating frame.

66. Reciprocating motion by toothed wheel and spring bar.

67. Cam groove in drum to produce reciprocating motion.

68. Reciprocating rectilinear motion by means of a cam.

69. Variable velocity of bar by slotted arm on shaft.

70. Rotating scolloped wheel gives rectilinear motion to rod.

71. When the upper and lower rods are brought together, the right and left are separated.

72. Toe and lifter for working engine valves.

73. Parallel motion for piston-rod of steam engine.

74. Stamp and lifting cam.

75. Same purpose, with rack and mutilated pinion.

76. Working-beam and fly-wheel.

77. Eccentric or cam, and elbow lever.

78. Cross-head and guides.

79. Oscillating motion of beam into rotary motion by sun and planet wheels.

80. Double-acting beam.

81. Single-acting beam.

82. One form of oscillating engine.

83, Bowery's joiner's clamp; plan and transverse section. Oblong bed has, at one end, two wedge-formed cheeks, adjacent sides of which lie at an angle to each other, and are dove-tailed inward from upper edge to receive two wedges for clamping the piece or pieces of wood to be planed.

84. Obtaining motion from a fall of water. The bucket empties itself as it touches the ground by a valve in the bottom.

SEALS ON THE NORTHWEST COAST.—During the spring, after the 15th of April, seals and sea lions settle in myriads in Behring's, Copper, Blijnec, Andreanoviki, Fox, St. Paul's and St. George's Islands, and the business of hunting them for their fur and oil already engages many Californians and Puget Sound people, not mentioning coast Indians and Russian half-breeds; larger profits being returned here than in the Labrador seal fishery, or on the Norwegian coasts. A returned seal hunter furnishes the *Mercantile Gazette* with some information on the subject, which we condense as follows:

The male seal, or sekach, in the spring, guards more than two hundred females. The sekach is very large, and has great influence over the herd of females. It seeks out the highest rock on the coast, where it can rest or play. A skillful hunter will never kill the sekach while it is on the rocks, as that would drive away the seals. Females give birth to young in the mouth of September, and the rocks are then covered with pups. They never have more than two in a litter. Their voices resemble the bleating of young lambs. They are suckled by the mother until they are able to go into the water, when they are required to look out for themselves. Seal go up on the beach in foggy weather, or in the evening. They are so fat that in hot weather they prefer the water. After sunset the Aleuts drive them back towards the mountains; then they separate the females and young ones from the males, kill all the males for their oil, and drive the other portion back into the sea. A seal hunting firm last summer had 40,000 females one year old killed in August and September for their furs.

Seal oil is worth seventy-five cents per gallon, and is very superior for machinery and lamps. The Americans trading in Alaska last summer did not pay any attention to the seal oil. They all went after furs. The oil of 400,000 seals was thrown into the water. The seals at the end of October and the early part of November, emigrate to the southwest, or to the Japanese Islands. They are not afraid of the ice, but prefer a milder climate in the winter season.

At a recent meeting of the Chamber of Commerce it was stated that the objectionable bill relating to the Alaska seal fisheries, which was introduced by Senator Cole, and alleged to afford a monopoly of the business to Hutchinson, Kohl & Co., had been withdrawn, and another bill less objectionable in its features introduced in its stead. The new bill prohibits the killing of female seals, levies a duty of $2 upon each seal skin, and limits the number of seals to be killed to twenty-five thousand per annum on four of the principal islands. It authorizes the Secretary of the Treasury to advertise for proposals for killing the seals allowed to be taken, as seals are only found on a few islands in Northern Pacific waters, and one island in the Atlantic on the American side, stringent measures are deemed necessary for their protection.

JOHNSTON'S PROCESS OF DISTILLING BRANDY.—This consists in the substitution of a column rectifier between the still and the usual worm. In this column, the spirit as distilled is washed in water repeatedly before condensation, and the fusil oil thereby thoroughly extracted. Both the still and column are graduated by the use of water, each having thermometers indicating the temperature inside and the strength of the spirit at the same time, so that the distiller has the whole operation under complete control.

A sample of brandy manufactured by this process at B. N. Bugbey's vineyard, near Folsom, from Muscatel pummace, has been sent to this office, which, though 35 per cent. above proof, possesses an unusual smoothness for its age, with the delicious perfume and flavor of the grape from which it was made. We have also received from the above mentioned vineyard a box of native raisins, and a branch about two feet long, upon which were *nine* oranges. The tree from which it was taken was about eighteen feet high, and was literally covered with the golden fruit. The raisins are of fine quality, and in some respects superior to the imported article.

MINERAL WEALTH OF CALIFORNIA AND ADJOINING TERRITORIES.—Under this title Dr. Burkert of Bonn, is furnishing an able resumé of all that is known from published sources, in the columns of the *Berg and Hutten Zeitung*.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Oregon and its Resources.

Salem, Oregon, Jan. 31, 1869.

Editors Press:—I have been spending the winter in this land of rains and fogs, as common fame has it, but I have so far not been able to realize the appropriateness of the designation from any extraordinary rain or fog demonstrations encountered up to the present date. The winter has been much of the California type; no snow, and but little ice in the streets of Salem.

This City of Peace is in the center of the great Willamette Valley,—a valley extensive enough for a kingdom, and with a soil capable in its fertility of sustaining a population of three millions. Everybody knows, however, about the capital of Oregon, with its university, its medical college, its flouring mills and woolen factories, its numerous churches and flourishing schools. The great Oregon Central R. R., commencing at Portland, destined to reach San Francisco with a branch to tap the Pacific Central at the Humboldt, passes through Salem. The work is far advanced; the grading complete from here to Portland, and some of the bridges erected.

The Cascade Mountain range bounds the valley on the east, and the Coast Range on the west. In these ranges the tributaries of the great Willamette river have their origin, each forming its own subordinate valley, digitations to the grand Willamette plain.

The mineral treasures of these mountains have never been explored. The most superficial observation, however, proves that great wealth lies slumbering among their rocks. An interest is now springing up in their behalf from the late discoveries made in both ranges. I am in receipt of fine specimens of gold, copper, iron, cinnabar, marble, lead, zinc and antimony, and letters have reached me in regard to discoveries in Coos County, of the utmost importance, but it is desired not to give details for the present.

The Santiam mines were much talked of a year or two back. They fell into disrepute from the ill-directed efforts made at working them. I have however come to the conclusion from a personal examination that a rich mining region surrounds the abandoned mill and camp at Quartzville. From numerous assays I made but recently of samples from that vicinity, I can come to no other conclusion than that there are some valuable lodes there.

The district of Bohemia, south of the Santiam mines in the same range, the Cascade is claimed to be rich and extensive. As to the richness of ore I can myself testify, and have no reason to doubt the reported length and width of the leads.

Along the margin of the valley on either side, and indeed in the center, mineral matter of great value is to be encountered. Coal of tolerable quality, excellent iron ore, fine potter clay, and in one locality at least, a superior material for fire bricks, I have seen myself. Mineral waters also abound. A spring having all the properties of the *Congress water* of Saratoga, is within twenty-five miles of Salem. I have experienced and tested the mineral matters of three different localities in the neighborhood of Salem, and one near Portland, remarkably rich in borax. Brine springs affording an excellent article of culinary salt, are found both near Salem and Portland. In short there is no end of the elements of wealth lying loose around and at the very doors of the Oregonians, if they only would take the trouble to examine. I may be able to give details of some of these valuable things, so soon as weather permits comfortable field exercise. J. A. V.

Oceanic Earthquake.—The self-registering tide gauge at Fort Point, which never fails to record the slightest variation in the tide level, indicated, on the 10th instant, an unusual disturbance, in all probability caused by a submarine earthquake.

Alpine County as a Mining Field.

In a two and a quarter column communication published in the New York *Tribune* of January 12th, Mr. J. Winchester, (himself formerly one of the editors of the *Tribune*,) has furnished an able account of the mining interests of Alpine County, with which he has become identified. He says:

"The mineral districts of Alpine County are of far greater extent than that developed in and about Virginia. There are a dozen or more of them, but the most prominent are Monitor, Silver Mountain, Great Mogul, Alpine, Scandinavian, and Raymond. The mineral lodes are more numerous, some of them even of greater magnitude, than the Comstock, while in the average richness of the ores the latter bears no comparison to those of Alpine. In the facilities for cheap working, the mines of Alpine are unsurpassed by any other on this continent. The Carson River and its tributaries, which are principally fed by the Alpine snows, furnish a water-power sufficient to drive thousands of stamps, to which the mineral ledges are all in close proximity.

By an improvement in the "Plattner gold and silver chloriuation process," put into operation on the Star ores during the past two months by Messrs. Hoffman & Kustel, two experienced German metallurgists, the most surprising results have been obtained. It is found that all the valuable metals—gold, silver, and copper—can be extracted to within 4 per cent of the assay, *at a cost of treatment not exceeding twelve dollars per ton.* The first lot of this ore, worked at the Pioneer mill, at Markleeville, near the mine, gave a product of about $400 per ton. This method of treatment, adapted alike to all kinds of sulphuret ores, no matter how refractory, ushers in a new and prosperous era in mining, for it brings the lowest grade of ores known in the silver regions within the scope of profit, while the yield on the higher grade ores will make *good mines* productive beyond the dreams of the most sanguine. Long neglected by capitalists, in San Francisco and the Atlantic States, under the impetus of the recent improvements in the reduction of ores by which the product is *maximum* and the cost *minimum*—with a wide margin for profit between, Alpine County will take rank as a bullion-producing district ere many years, second to no other within the bounds of the mineral region of the Union."

Mr. Winchester has fallen into a common error in supposing the Kustel & Hoffman process to be the same as the Plattner chloriuation process. In point of fact the two processes have nothing in common but the leaching tub. Plattner's chlorination is applied to gold, and consists in the use of quantities of free chlorine gas, made with the aid of oxide of manganese, to change the metal into soluble chloride of gold. In Kustel's process, the success of which has proved so satisfactory in the treatment of the Star argentiferous copper and lead ores, the only chlorine generated, is done precisely as in the usual process with salt; and the "trick" consists in not chloridizing the silver at all, as is the case in the preparation for pan amalgamation, but in managing the temperature so as to chloridize the base metals only, which are thereby rendered soluble, and capable of being leached out, and so got rid of for the succeeding amalgamation.

The Sutro Tunnel bill has now taken the title of an Act to aid in ascertaining the value of the public lands containing mineral lodes, and for the endowment of a national school of mines; being the former bill as it has been amended, but introduced by Mr. Ashley, of Nevada, for legislative reasons, as a new bill.

Chinese Remedy for the Vine Disease.—The Chinese,—it is said,—use a thick paste made of flowers of sulphur and aluminous clay, as a remedy for the vine disease. The paste is laid upon the ground about the vine.

Perm, the great metropolis of the Russian iron mining and manufacturing districts of the Ural foothills, has added to its industries a great gun factory, within a few versts distance, on the banks of the Kama.

Proposed Mining and Metallurgical Commission to Europe.—A Washington telegram says:

Senator Conness has presented a memorial in Congress signed by about fifty distinguished citizens, composed of professors of colleges and mining schools and leading citizens and experts in metallurgy, who pray for the appointment of a Commission to visit the various mines in Europe and report upon the modes of treating ores containing the precious metals. The memorial was ordered to be printed and referred to the Committee on Mines and Mining. Professor Sykes, the gentleman who is urging this matter upon Congress, will have a hearing before the House Committee on Mines and Mining during the present week.

It is presumed that Professor Sykes will furnish good and valid reasons why he should not undertake the trip at his own expense, as dozens of others have done within half a score of years past, who have devoted much more time and labor to the subject than Professor Sykes is likely to do. If a "Report" is wanted, it may be stated that we already have one, from Prof. Blake, on the subject, published by the State of California. If information about European processes,—the same is accessible in the proper books and periodicals, which are generally already in the possession of all our intelligent mining managers. If advice is to be given as to the best processes, for all kinds of ores and metals in this country in general or in particular, Professor Syke's opinion will not be taken for anything more than it is worth, and will certainly not be in advance of the intelligence of many of our working metallurgists.

There can be no harm, however, in sending such a commission; only that it is well to understand in whose interest, and as definitely as possible to what purpose, the proposition may be set on foot.

Kiln Drying Lumber.—We are informed that steps are being taken by some gentlemen connected with the lumber interests, to establish a new lumber seasoning process near the foot of Third street. One of these seasoning processes common in the Atlantic States, consists in the use of a kiln called Buckley's Patent Dryer, a low brick building, tightly covered or ceiled overhead, with close folding doors, making it as near air-tight as possible. It is fitted with rail track and large car, on which the lumber is piled by thousands, with slats or laths intervening between each layer of boards, when it is run into the house and the doors closed. In an adjoining building is a large boiler for generating steam, which is superheated and introduced into the dry-house through pipes, where a constant and uninterrupted supply is kept up for from twenty-four to forty-eight hours, when the last drop of moisture will be found to have left the lumber, and it becomes impossible to shrink it more. Lumber seasoned in this way does not shrink after being manufactured, and is used in cabinet-work and fine finishing. Every large lumber dealer in Chicago is said to have one of these dryers, without which they would be unable to supply the market with seasoned lumber. Where green lumber has to be transported any distance by land, the expense is more than saved in cost of transportation.

The British Iron and Steel Institute.—This new organization progresses. A first meeting, to define its constitution and agree to a code of rules, was held in London on December 16th; and during the present month, February, it is to be formally opened. The Duke of Devonshire was invited to be President. The *Engineer* says this was wise; not only because Englishmen are very fond of having a nobleman at their head,—and because it prevented any possible jealousies among the members of the trade who might conceive themselves entitled to the honor,—but for the reason that the Duke, "in addition to having great possessions in mineral property, is at the head of a concern which is amongst the foremost and the most extensive of modern iron and steel works in this country."

Aniline.—It requires as many as 2,000 tons of coal to produce a circular block of *rosaniline* twenty-four inches high by nine inches wide, but this is sufficient to dye three hundred miles of silk fabric.

California Academy of Sciences.

A regular meeting of the California Academy of Sciences was held on Monday evening January 15th, Dr. J. G. Cooper in the chair. The following persons were elected members: J. W. Hobson, John J. Stephenson, M. D., and Smythe Clark; and proposed for membership, Dr. George Hewston, Mr. Easton, Dr. Aroustein, and James F. Breed.

THE BOUNDS BETWEEN VEGETABLE AND ANIMAL LIFE.

Dr. James Blake read an interesting paper on Amœbæ, and the lower forms of organized matter. He pointed out the more striking peculiarities of the amœbæ, as regards their powers of organization, locomotion, nutrition and reproduction. The habits of this lowest order of what are by courtesy called living beings, but are, in reality, only small masses of glutinous matter, were fully described and illustrated by diagrams, showing their various stages of formation, their several varieties, and that they were found everywhere, even in the sands of our seashore, nearly a hundred feet beneath the surface. Sometimes five or six of these amœbæ join, and they can be divided indefinitely. They often fall into a hundred pieces, each piece being animated and becoming a distinct individual of his species. When the being, which has neither mouth nor stomach, required nourishment, it shut itself around the food instead of receiving it. The lecturer showed by diagrams the curious method by which the creature separates and reforms into other of its species. They are neither animals nor vegetables, yet partake of the nature of both. They have a tendency to continual motion, and these algæ, infusoria, amœbæ, etc., find oxygen necessary to their movements, which cease upon the introduction of electricity or hydrogen.

A number of scientific works were donated to the Academy; specimens of calcareous sandstone by Mr. Yale; fossils from a coal mine in Mount Diablo by Captain John Eckley; and a quantity of acohol for preserving specimens, by James Dows & Co.

THE CANYON LIVE OAK—IGNORANCE OF ITS VALUE.

Professor Kellogg presented specimens of the fruit, foliage and timber of the Golden Decked Live Oak, or Cañon Live Oak *(Quercus Chrysolepis)* of the coast of California, procured by Geo. W. Dunn, a member of the Academy. This oak, Professor Kellogg said, was by some confounded with *Q. Wishizeni*, specimens of which were presented for comparison. The timber is remarkable for its solidity, strength, toughness and durability, only equaled by our southeastern live oak *(Quercus Virens)*. He remarked that his attention was many years ago directed to its use in ship frames, knees, etc., by Captain Morgan, of Bolinas Bay. It was a "burning shame," in his view of it, to have such valuable timber shipped to San Francisco for firewood, out of sheer ignorance of its value. This species must not be confounded with the ordinary live oak, *Quercus agrifolia*, of Oakland, Alameda, and the suburbs of San Francisco. Dr. Kellogg also read a description of *Turritis Americanus Kellogg;* of a new genus *Crinœa Kellogg*, and two new species, *Crinœa cymosa*, and *Crinœa Montana Kellogg;* also a description of a new species *Aster* of Biotia Section, D. C., and *Aster Consanguenea, Kellogg.*

PRACTICAL METEOROLOGY.

Dr. Gibbons moved the appointment of a Committee on Meteorology, to make and collate observations on the climate and atmospheric phenomena of California. One object of such a committee should be to issue a circular to the editors and proprietors of newspapers throughout the State to induce them to publish regular accounts of the atmospheric changes in their respective regions—the quantity of rain, the hour of commencement and termination of storms, and other meteorological facts calculated to assist in the formation of generalizations of value. The phenomena of storms on this coast were quite different from those on the Atlantic side. There the progress of a storm was telegraphed in advance from State to State. The law of storms here was very vague and difficult to understand. He (Dr. Gibbons) had been endeavoring many years to get at the philosophy of our south and southeast rain storms, but without some organized system such as the above, it would be impossible to arrive at results.

The motion to appoint a committee at the next meeting was carried, and the Academy adjourned.

Mechanical.

Rails—Iron or Steel?—This question is still discussed. Steel rails have not fully answered the expectation. Those people who rush to extremes, are therefore loud in their wholesale denunciation of them. But there is probably good reason for their failure to come up to the standard claimed at first. Sample steel rails of superior quality were contrasted with *ordinary* iron rails as a test. The same cause which led to the use of poor iron, has led to the use of poor steel; hence the failure. Again; in the laying of the rails, too little regard has been paid to the peculiar crystalline structure of steel. It will break under circumstances where an iron rail, with its tough fibrous structure, will not. Jarring and pounding will not answer with steel. A slight notch or indentation may serve as the commencement of a fracture, gradually extending, until the rail snaps. This wooden pads have been used in some cases, to obviate these objections,—and with good results. The *American Artisan* says: "The claims and expectations of those interested in the introduction of steel rails have been sufficiently high to permit in very considerable abatement without doing away with the probability that, at no distant period, steel will be almost universally substituted for iron as a material for rails."

Why it Costs so much to Keep a Railroad in Repair.—One reason is that the cross-ties are not all of the same size and length, and consequently there is an unequal amount of bearing surface. As each driving wheel passes over the cross-tie the tie is driven down in the ballast just in proportion as the bearing surface is deficient to sustain the load. Now where the cross-ties are irregular in size, the resisting power to depression varies, the smaller tie sinking deepest, the blow from the driving wheel being aided by the fall so that the effects are aggravated in proportion. This result leaves the track a succession of short and irregular waves. The *American Railway Times* says: Vast amounts of money are expended to secure a smooth and even road bed,—for that is the theory of all railway construction,—and then the practice is to so arrange the superstructure that the evenness and smoothness are at once destroyed, and the trains instead of having that easy gliding motion so favorable to economy of operation and safety, go thumping and pounding over the line, causing a useless waste of power, destroying the road-bed, and every part of the superstructure, and destroying every part of the rolling stock as well."

Pressure better than Hammering for Welding.—Recent experiments by French machinists have shown that continued steady hydraulic pressure in welding, causes complete union of two masses of iron, while the junction is only superficial if produced by the hammer. Among other experiments, two iron bars, 1¼ inches in diameter, were heated to the welding point and brought under the hydraulic press. The welding was effected with extraordinary quickness, the fibers of the iron being thoroughly intercalated with each other, and the joined portion of the bars was quite as strong as anywhere else, a microscopic section of the joint showing a perfectly homogeneous texture.

Liquid Fuel for Steam Vessels.— Dr. Paul concluded from his investigations, that an evaporative efficiency of 13 lbs. of water per 1 lb. of oil burnt might be attained, so that, taking the average duty of coal at 7 lbs. of water evaporated per 1 lb. of coal, the weight of oil required to fuel a vessel would only be about one-half that required of coal, or the weight of fuel to be carried would be only half as much as when coal is used. And taking the ton of coal as stowed on board a vessel to occupy 43 cubic feet, and the ton of oil as occupying 34 cubic feet, the quantity of oil equivalent to 1 ton of coal would occupy only about 17 cubic feet, so that the saving in stowage space would amount to 60 per cent. of the space required for coal.—*London Mining Journal.*

Deer-skins.

From an article in the *American Naturalist*, by Charles Wright, on "Deer-hunting in Texas," we extract the following description of the manner of preparing the skins of the deer for market:

"There are three principal operations: graining, brainiag, and smoking. The skin is dried and afterwards soaked till it is soft; then the hair and grain, or cuticle, are rubbed off with any instrument serving the same purpose as a currier's knife, the skin being spread out on anything answering to the currier's beam. The skin is partially "broken" in this process, and it should be stretched and broken still more, while drying, that it may "take brains" more readily. The brains of the deer, or any similar quantity of another animal will dress the skin. The skin, immersed in it, soon absorbs the brains and becomes thick and spongy. But if the skin be now wetted and suffered to dry without manipulation, it becomes hard again like rawhide. Smoking is a means of obviating this. The object is to make the smoke pass through the pores of the skin. The effect of the brains seems to be to comminute the gluten, but it does not affect its solubility. The smoke seems to form a chemical combination with it, rendering it insoluble. Any dry rotten wood,—hickory, ash, oak, or even cobs,—serves to make the smoke. A hole is dug in the ground about two feet deep and six inches in diameter. Some coals are thrown in and a little of the wood upon them. The skins (better two together) are loosely sewed along the edges, except one, which is stretched around the hole, and the skins are then suspended above it, like an empty sack with the mouth downward. The process is kept up till the operator deems the skin sufficiently smoked."

Steam Expansion.—The *American Artisan* gives the new table constructed by the celebrated French engineers, Normand and Mallet: In the construction of this table of expansion, corrections have been made for three important points, viz., the fall of temperature to the degrees corresponding to the successive pressures; the portion of condensed steam which, added to the fall of temperature, completes the loss of heat corresponding to the successive supplies of motive power (steam); and for the resisting pressure in the condenser. In the table the first column represents the final volume of steam in the cylinder at the end of its expansion in proportion to the volume just before expansion commences. The second column gives the corresponding "cut-off" point in decimal parts of the stroke. The third column gives the work done by the steam, supposing the work done without expansion and without back pressure to be 1:

1·00	1·000	0.960
1·50	0·666	1·326
2·00	0·500	1·566
2·50	0·400	1·741
3·00	0·333	1·876
4·00	0·250	2·071
5·00	0·200	2·206
6·00	0·166	2·304
8·00	0·125	2·435
10·00	0·100	2·513

Messrs. Normand and Mallet think that the degree of expansion should be in proportion to *the distance run*, in order that economy may result from *the combined lightness of the machinery and fuel.* For a run of one day the rate of expansion should be 4 or 5 volumes; for 5 days, 5 or 6; for 10 days, 6 or 7; for 15 days, 7 or 8; for 20 days, 8 or 10. Expansion to 4 or 5 volumes has been found in Normand's engines to be consistent with the highest degree of lightness even without fuel.

"Something New in Steel."—*The Engineer* of Dec. 25th, describes, under the above head, a new tool metal prepared by Mr. Mushet, which planed a certain area of hard cast iron without losing its edge, while a similar tool of the best ordinary cast steel had to be ground three times to perform the same work. The journal named above, says it is to all intents and purposes, a new metal,—neither steel nor cast iron. Mr. Mushet has not patented its mode of production, although it is reserved as a secret.

The Ejector Condenser.—Morton's condenser, which we described last week, is said to be "regarded by eminent professional men in Great Britain as probably the most important improvement in the steam engine since the time of James Watt."

Scientific Miscellany.

Reversion to Original Types—The Silk-worm Disease.

It is well known that, among men, the strongly marked features of an ancestor, although so modified by transmission through repeated intermarriages with different families, as to have been totally untraceable for several generations, will occasionally "crop out" in all their distinctness; and that an infant, who is by no means "the very image of his father," will look exactly like the picture of his great-great-great-grandfather. Something analogous to this is true of lower organisms. Part V. of Packard's "Guide to the Study of Insects," — which has just come out, and the receipt of which from the publishers we hereby acknowledge,— treats of,—among other families, — the *Bombycidæ.* To these belong the silk-worms. A few remarks upon the *Bombyx mori*, or Chinese silk-worm, will at this season be interesting to many of our readers. This worm is of an ashy or cream color; but in almost every batch of worms will be seen, after the first moult has occurred, some dark-colored ones. These have been considered a distinct species, arising from domestication. But the experiments of Captain Hutton, of India, have shown that they are actually types of the original species; and that by separating them from their debilitated and degenerate companions, whose sickly race is fast dying out,— a permanent and healthy breed may be produced. He attributes the disease which has been prevalent among them,—and which has at last brought them, as a family, to a moribund condition,—to improper food, want of light and air, too high a temperature, and constant interbreeding for centuries. Having become convinced that the occasional occurrence of a dark-grey or blackish worm was an effort of nature to revert to the original healthy starting-point, "he picked out all the dark-colored worms and reared them separately, allowing the moths to couple only *inter se*, and the same with the white worms. In the following spring the one batch of eggs produced nearly all dark-brindled worms, whilst the other batch produced white worms, sparingly interspersed with an occasional dark one; these latter were removed into a dark batch, which was also weeded of its pale worms. In the third year the worms were still darker than before, and were always larger and more vigorous than the pale ones, giving larger and better stuffed cocoons. He finally succeeded in getting an entire brood of dark worms, which he regarded as a sign of increased health and strength in the larvæ, thus proving that the dark worms were of the original race."

The Transits of Venus.—Mr. Airy, the Astronomer Royal of England, is already preparing for the transit of Venus, which will occur in 1874. He suggests to the Astronomical Society, as one station from which to make the observations, a point in the Antarctic Continent where Sir James Ross landed. This point, however, is unapproachable at or about the time when the event will take place; those therefore who join the party, must make up their minds to stay there a year. Other points also recommended as stations are Mauritius and Madagascar. Another transit will occur in 1882.

Bathybius.—This is the name given by Professor Huxley to the singular gelatinous substance from the bottom of the Atlantic which he has been investigating by means of the microscope. It is the lowest form of living matter, and apparently obtains its food, like plants, from the inorganic world. By some it is regarded as a gigantic Protozoan, extending over miles of surface, and yet being one living mass.

The Two Toluidines. — Rosonstiehl has found that besides the ordinary crystallizable *toluidine*, there also occurs in association with the aniline of commerce, another *liquid* alkaloid, isomeric with toluidine, which he calls *pseudo toluidine.* Since 1863 Hoffman has taught us that aniline alone will not produce the brilliant tinted salts of rosaniline, but that toluidine must be present also. R. finds that neither species of toluidine alone will act in this way, but that a mixture of both of them behaves with arsenic acid like a mixture of the ordinary crystallized toluidine with aniline, affording the arseniate of rosaniline; but, what is most remarkable, affording it in very much larger proportion. In fact, whilst a mixture of pure crystallizable toluidine with anilino yeilded but 22.5 per cent. of crystallized red color, the mixture of the two toluidines, as obtained from coal tar, yielded 39 to 40 per cent. In the former case, about 20 per cent. of anilino remained unchanged, so that the proportions of toluidine and aniline entering into the reaction were two parts of the former to one of the latter. Commercial aniline, of course a mixture, yields from 27 to 30 per cent. of the color.—*Bulletin de la Société Chimique, Prof. Wurtz.*

To Preserve the Metallic Luster of Sodium.—It is usual to keep sodium under naphtha. But its beautiful metallic luster is in this case only seen upon a freshly cut surface. Prof. G. Hinrichs proposes and practices the following method, by which that luster is permanently shown: "Take two test tubes, one a little smaller than the other, so as to slip into the latter without leaving much space between the two glass walls, put some carefully cleaned sodium in the wider tube, insert the more narrow tube, having previously given a thin coating of beeswax to the upper part of this latter; then gently heat the whole on a sand bath. The sodium will fuse, and by a gentle pressure the inner tube is pressed down, so as to force the fused metal over a large surface between the two tubes, while the air is totally excluded by the beeswax. I have kept sodium for more than six months in this way, and it is now as bright and brilliant as when first put up."

The Granite and Soil of Iowa and New England.—C. A. White has traced up the reddish granite rocks of the Iowa drift to their original home. He says: "At the mouth of the Redwood River there are large exposures of them, reaching a hundred feet in thickness, yet in place and undisturbed, but so thoroughly decomposed, that one can crush it in his hand to the condition of ordinary soil, like that described by Professor Agassiz, as composing the Organ Mountains, near Rio Janeiro. It is evidently from this source that much of the soil and fine material of the drift of Iowa and Minnesota are derived. New England did not derive such a soil from her granites, although they contain all the elements of good soil, because their texture did not allow of their ready disintegration, while the glaciers were passing over them, as those of Minnesota did. Thus the great superiority of the soil of the Northwest over that of New England, is due to the fact that the rocks of the whole region—granites, sandstones, and limestones—were more easily disintegrated and ground."

Paraffine.—The ordinary mode of obtaining refined paraffine from the crude distillates involves two redistillations of the same, which always detracts from the yield of paraffine, both in quantity and quality; a portion being converted into permanently liquid hydrocarbons, while another portion becomes modified so that the solid products are softer and more fusible. Hulmer proposes therefore to treat the crude tarry products directly with sulphuric acid, then, after decantation, to distill from a few hundredths of *quicklime* (instead of the soda ordinarily employed) and then to crystallize, press and purify in the usual way by washing with liquid hydrocarbons. He thus obtains a greater yield and a better product.—*Gas Light Journal.*

Estimating Silver by the Wet Method.—M. Stas says that chloride of sodium does not precipitate all the silver from a solution. He employs bromides; and he is now engaged in experiments on the preparation of bromide free from chloride, as the commercial samples are impure.

Iodide of Aluminum in Photography. M. Jeuffrein states that he has found this substance very useful in preventing the collodionized surface from blistering.

Resources and Developments.

SHARK OIL.—An expedition is being organized, and a vessel fitted out at Honolulu for the purpose of catching sharks, in the waters about Pearl river, Oahu. The oil will he extracted from their livers, and the fins dried for the Chiua trade.

SALT DEPOSIT. — We are informed (says the Virginia City *Enterprise)* tbat a salt plain, some five miles in width by eight in length, has been discovered about eighty-five miles southeast of Pine Grove. The whole surface of the valley is of pure, coarse-grained salt. Near the center of the valley is a pond, a quarter of a mile in diameter, of exceedingly salt and bitter water.

CAPABILITIES OF UTAH TERRITORY.—According to George A. Smith, who is said to be the best informed man in the Territory, and is called the historian of the church, out of the 43,000,000 acres of land in Utah, not more than 500,000 can be cultivated with profit. Last year, the number of acres was 133,000, or about one-third of the land which can be cultivated, by irrigation from mountain streams. Artesian wells may he made successful on the sage plains and the alkali wastes. Several attempts have been made to sink them, but without great success thus far. A company was formed several years ago, called the Jordan Irrigating Company, which undertook to irrigate about 11,000 acres of land west of the city. An expensive dam was erected, $20,000 expended, hut the floods carried away the dam, and not more than 500 acres have been brought under cultivation. In the statistical report made to the Territorial Legislature, it is estimated that the tillable land not yet under cultivation will support a population of 400,000. This estimate gives 640 inhabitants to the square mile, a population more dense than any State in the Union. The farmers of Utah have small farms—not more than fiftecu acres. The average may be set at ten acres. Irrigation is practiced, but it is expensive, requiring a net work of ditches and dykes. The water is taken by a sluice from main canals, and hrought upon the growing crops through shallow ditches, generally about five feet apart.

SOUTHERN UTAH has a flourishing settlement of about 10,000 faithful Mormons, in the rich valley of Virgin river, a tributary of the Colorado, ahout 75 miles above its mouth, which is near Colville. The principal town is St. George, situated at an elevation of about 2,000 feet above the sea, in latitude 37° 10′. The climate is very warm in summer, and the winters are much milder than in Salt Lake City, which is 3½ degrees further north and 2,300 feet higher in altitude. The cultivation of the cotton, tbe grape, the fig, the olive and various other semi-tropical fruits, having proved successful, many of the Mormons of the colder basin intend to move to the south. Washington county includes the new settlements; it has a mill in which cotton and wool are spun and wove, nine grist mills, six saw mills, and twenty-two schools. St. George is now building a meeting house of cut stone, to cost $300,000. Wages range from $2 50 to $6 per day in currency, hut money is very scarce, and nearly all the trading is done by barter. It is probahle that tbe opening of the White Pine mines will furnish a splendid market for the produce of St. George, which is 175 miles distant, and only 120 from the Grand District —a later discovery, said to be very rich also. Among the institutions of St. George is a coöperative commercial association, the agent of which is now in this city purchasing merchandise to be shipped to San Pedro, and theuce hauled overland, at an expense of 15 cents per pound. Transportation would be cheaper by way of the Colorado, but trips to the head of navigation at present are very costly, so that small shipments of freight to Southern Utah can be carried cheaper by way of San Bernardino.

ACCESSIBILITY OF THE UPPER COLORADO BASIN. — Ross Browne speaks thus of the Colorado, as he saw it: "It could scarcely fall any lower, without going entirely through its own bottom. A more capricious river does not exist. Formerly it ran through the desert to the northwest, but for some reason or other it changed its course, and it now runs ahout three feet above the level of the desert. As a navigable stream it possesses some advantages during the dry season; boats cau seldom sink in it; and for the matter of chanuels it has an unusual variety. The main chauuel shifts so often tbat the most skillful pilot always knows where it is not to hc found by pursuing the course of his last trip. The steamer which plies hetween the fort and the mouth of the river, distant 100 miles, could not make the round trip in less than two weeks, owing to shoals and shifting bars. Up to La Paz and Fort Mojave the navigation was still worse. Twenty or thirty days up and down was considered a fair trip." Colville, the landing point for White Pine and St. George, is 75 miles above Fort Mojave. In time it is possible that a canal, for freightiug and irrigating purposes, may he built from Colville to the head of economical navigation.

Railroad Items.

THE last rail has been laid on the San José and Gilroy Railroad.

THE citizens of San Rafael, Marin County, are taking stock and moving actively iu a railroad building project to connect that town with Point San Quentin ferry landing, four miles distant.

THE Watsonville *Pajaronian*, of Fehruary 11th, says: Seventy-five tbousand dollars has already been subscribed for the purpose of building a railroad between Santa Cruz and Salinas Valley.

THE highest altitude attained on the Central Pacific Railroad is 7,042 feet. The highest point on the Union Pacific Railroad is at Sherman, which is 8,434 fect above the level of the sea.

WORK on the Virginia and Truckee Railroad was commenced at Virginia City ou Thursday the 18th inst., aud the telegraph says it is to he prosecuted with the utmost onergy until its completiou.

SALT LAKE CITY is now within four days of Chicago by rail and stage. Wells, Fargo & Co's express stages connect with the Union Pacific Railroad at Cranton, less thau one hundred miles from Salt Lake, aud ahout twenty-four hours' journey.

THE Engineer Corps of the California Pacific Railroad, in charge of F. H. Petersou, completed their survey to Woodland, Yolo County, on Thursday, February 18th. From Davisville they report the ground in good condition for grading, and work is to commence on the Davisville end of the line immediately.

THE Solano *Democrat*, of February 13th, says: From present appearances it is fair to presume that Woodland will soon be in direct communication by rail with Vallejo and Sacramento. It is reported that the contract has been let for the construction of the road from the junction at Davisville to this place.

A CORRESPONDENT from the national capital writes: The Washingtou Territory people want a railroad, with all its dips, spurs and angles, to accommodate the growing trade of that Territory. The Oregonians here are divided in their efforts between two rival roads. The Idaho folks favor a railroad to Snake River, and all these, united with the Moutana, Minnesota and Dacotah people, are urging upon Congress the speedy construction of the Northern Pacific Railroad.

THE Yreka *Journal* thinks that if Congress refuses to pass the Mallory bill, the California and Oregon Railroad Company will then be compelled to huild its road on the line of the old Elliot survey.

On this subject the Shasta *Courier*, of February 15th, says: We cannot see why it will be compelled to do so. The charter granted to the company by Congress merely stipulates that the road shall be built from a giveu point iu the Sacramento Valley to the Oregon line. The company is not restricted to the Elliot survey, but is at liberty to run to the Oregon line hy any route it may see proper to adopt. The company has already located its lands to a point about six miles west of this place, rendering it certain that wheu the road is built it will at least come iu the neighborhood of this place, if not directly to the town. It is yet to be determined whether the Elliot survey will be followed up the Sacrameuto and through Shasta Valley, or the road turn off and ruu up Pitt River Valley, and reach the Oregon line through the Goose Lake country.

THE UNION PACIFIC TOWN AT SALT LAKE.—The new towu laid out by the Uuion Pacific Railroad Compauy in Salt Lake Valley, is located about six miles north of Ogden, at the Prairie House. The location is not so good, on account of water and the river navigation, as the point where the road crosses Bear River. Steamers can ply on the lake and up the river to the latter point.

"After laying out the new town," says the Salt Lake *Reporter*, "the railroad company received au offer from the Mormon authorities that if they would make that location in the city of Ogden, huilding their machine shops there, those authorities would donate to the company three hundred acres of land in the limits of that city and a houus of $100,000. This was the proposition, and the agent did not feel at liberty to go on with the sale of lots till it was decided. Whether it will be accepted remains to be seen."

ON the Western Pacific Railroad the track is laid on the Sacramento and Stockton section to the Cosumnes River, a distance of twenty miles. Tho survey is completed, and the grade lines established from the San Joaquin plains to Livermore Valley, a distance of fourteen miles. Over this sectiou also, a majority of tbe culverts are finished. Pile drivers aro at work on the fouudation for the bridge across the Cosumnes River, and timber for a bridge over the San Joaquin (old river) is ready at Banty's. About 700 men are engaged upon the cuts and tunnel at Livermore Pass. The tunnel is in 226 feet, and will be ahout 1,200 feet long, through a fine sandstone. This rock is valuahle for building purposes, and will, it is thought, be extensively quarried and freighted when the railroad is completed. Gangs of laborers are running the tunnel from each end, and will meet before July. It is to be timbered throughout. From Ladd's store, in Livermore Valley, to Oakland, a distauce of twenty-eight or thirty miles, three surveys have been made —oue to Hayward's, one to Castro Valley, and one coming out at Ward's milk ranch, at San Leandro. Neither survey has been adopted, though the last survey is said to he most favorably considered, with a possibility that still another route, through Hayward's Pass, may be adopted. Probably the company will find it advantageous to run freight trains arouud the bay to reach Sau Francisco without ferriage.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

FOR THE WEEK ENDING JANUARY 26th.

86,273.—IMPROVEMENT IN PUMP DEVICES FOR STEAM AND OTHER ENGINERY.—Chas. Edward Blake, San Francisco, Cal.:

1. I claim the safety valve apparatus A, B, C, D, E, F, G, constructed and arranged to operate substantially as set forth.

2. I claim the arrangement of the devices A, B, C, G, F, E and I, with reference to a steam pump or other enginery, as set forth.

New Inventions.

RUSSIAN WEAPON.—A Berlin journal announces that a Russian officer of St. Petersburg has invented a new firearm, which can be fired off two hundred times per minute, will fill a space of thirty paces square with a shower of grape shot, aud will produce its effects at a distance of 2,400 paces.

STEAM CONDENSER FOR USE ON SALT LAKE. The editor of a Salt Lake paper says: We saw yesterday, in front of Wells, Fargo & Co.'s express office, a most ingenions and economical steam condeuser, the invention, we believe, of General P. E. Connor, of Salk Lake, which is to be applied to a steamer he has lately had constructed on Great Salt Lake. The condenser consists of two coils of copper pipe which receive the escape steam from the cylinders, and are so placed as to he exposed to the spray from the paddle-wheels, and thus continuously producing a shower on the pipe, cooling it and condensing the steam, and thereby returning the water for use in the boiler. The water of Salt Lake is too strongly impregnated with saline matter to he used successfully for steam purposes, and therefore this contrivance, or invention, is found necessary to obviate the portage of fresh water and make the navigation of the lake practicable.

STEAM PLEASURE TRAINS ON ICE.—A company has been formed at St. Petersburg for the introduction of steam traction for pleasure trains on ice. It is proposed to employ locomotives like those on the railways, of about twenty-five or thirty horse power, with this single difference—that the wheelties are to be channeled in order to make them bite upon the ice without sensibly injuring it. The slipping of the wheels beiug avoided, and a snow-plow attached in front of the train, it is believed that it will be found practicable to make long journeys to Finland, Lapland, and some of the islands blocked up iu winter by the ice. The plan is well supported, aud it is thought that such means of communication may give life to countries which are now shut out from intercourse during the whole winter.

THE MOUNT DIABLO COUNTRY.—Our agent, William H. Murray, is making the tour of the coal mines, via Livermore Pass.

NEW INCORPORATIONS.—Articles of incorporation have heen recently filed in the County Clerk's office in this city as follows:

MIANTONOMAH MINING CO.—White Pine, Nev. Feb. 5th. Capital stock, $480,000; 4,800 shares, $100 each. Trustees: F. E. Thomas, James Alger, M. Steppacher, A. Pollak and J. P. Sherburne.

MAGENTO MINING CO.—White Pine, Nev. Feb. 8th. Capital stock, $1,400,000; 14,000 shares, $100 each. Trustees: W. K. Deitrich, Henry Cassanova, Peter Taylor, Edwin C. Palmer and W. J. Stringer.

OMEGA S. M. CO.—White Pine, Nev. Feb. 12th. Capital stock, $800,000; 8,000 shares, $100 each. Trustees: R. E. Brewster, Robert Apple, A. S. Gould, T. A, Mudge and Chas. Buneman.

TITICACA S. M. CO.—White Pine, Nev. Feb. 16th. Capital stock, $1,200,000; 12,000 shares, $100 cach Trustees: James Strattou, Cyrus N. Bradley, W. J. Tilley, G. N. Russell and Thos. Rea.

ION MINING CO.—White Pine, Nevada. Feb. 13th. Capital stock, $1,400,000; 14,000 shares, $100 each. Trustees: Peter Taylor, W. K. Dietrich, H. Cassanova, W. W. Merrihew and E. Applegarth.

PENNSYLVANIA TUNNEL CO.—White Pine, Nev. Feb. 13th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: J. L. Howard, R. W. Heath, J. T. Boyd R. F. Morrison and E. W. Leonard.

SAN FRANCISCO PACKAGE EXPRESS CO.—San Francisco. Feb. 13th, Capital stock, $2,000; 40 shares, $50 each. Trustees: D. V. B. Henarie, John G. Hodge, George Schultze, W. W. I. Kip, Jr., Edward Bosqui, David R. Patten, E. L. Goldstein, S. E. Oakley, A. D. Grimwood, T. A. Mudge, T. W. Fenn and H. B. Murray.

KAWANEE S. M. CO.—White Pine, Nev. Capital stock, $4,000,000; 8,000 shares, $500 each. Trustees: O. S. Dawson, H. B. Murray, W. I. Kipp, James Laidlcy and Edward Barry.

CITY GAS CO.—San Francisco. Feb. 16th. Capital stock, $10,000,000, 100,000 shares, $100 each. Trustees: A. Hayward, Thos. Bell, S. F. Butterworth, Nicholas Luning, I. Friedlander, Lloyd Tevis and Henry C. Robinson.

ETNA MINING CO.—Nevada, Feb. 18th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: Peleg Bumpez, Jas. A. Pritchard, James O'Neill, John Gillig and John Nightinga'e.

EDITH S. M. CO.—Nevada. Feb. 18th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: J. Gillig, J. D. Littlefield, J. Nightingale, B. F. Sherwood and J. O'Neill.

WELLS MINING CO.—White Pine, Nev. Feb. 5th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: Otis V. Sawyer, J. H. H. Williams, Wright Le Roy, Geo. B. Merrill and S. P. Wells.

RAVEN S. M. CO.—White Pine, Nevada. Capital stock, $800,000; 8,000 shares, $100 each. Trustees: C. W. Fox, E. O. F. Hastings, Joseph Clark, M. J. McDonald and C. F. Fargo.

MAMMOTH S. M. CO.—White Piue, Nev. Capital stock, $3,600,000; 3,600 shares, $1,000 each. Trustees: J. W. Winter, John Sime, B. F. Hastings, B. F. Sherwood, C. W. Jones, H. Beachy and W. J. McDonald.

WILLIAM PENN G. & S. M. CO.—Grass Valley, Nevada County. Capital stock, $170,000; 1,700 shares, $100 each. Trustees: B. McAuley, Oliver Sweeney, James Ferguson, P. G. Bonivert and Isaac J. Sherman.

PESCADERO AND HALF MOON BAY TELEGRAPH CO.—Capital stock, $6,000; 120 shares, $50 each.

ELECTION OF OFFICERS.—ODD FELLOWS SAVINGS BANK.—Feb. 9th; Directors: Dr. John F. Morse, John Cammet, Henry B. Brooks, Daniel McLaren, David Hunter, Lewis Soher, John J. Hucks, Philo White, Chas. N. Fox, Geo. T. Bohen, C. M. Boyd, Alfred S. Iredale, Chas. Bernard, Abram Block, Moses Selig, Joseph Brandenstein, Benjamin Price, Benjamin Hagan, S. E. C. Swezey, James Pollock, David Meeker, Albert S. Baldwin and Chas. Metzler.

CALIFORNIA MUTUAL LIFE INSURANCE CO. San Francisco, Feh. 11th. President, Frank McCoppin; Vice-President, S. F. Butterworth; Secretary, John Crockett; General Agent, Wm. R. Wheaton; Medical Examiuers, R. T. Maxwell and J. C. Shorb.

PACIFIC MUTUAL LIFE INSURANCE CO.—San Francisco. Feb. 11th. Directors: Leland Stanford, Robert Watt, Charles Crocker, Samuel Lavenson, P. H. Russell, H. F. Hastings, J. H. Carroll, James Carolan, B. F. Hastings, Newton Booth, D. W. Earl, D. B. Kenyon, Robert Hamilton, Leonard Goss and Edgar Mills.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, February 20, 1869.

Financial.

Appended will he found a decision on the subject of Custom House fees, as very recently rendered hy the Secretary of the Treasury, and just received here. It completely sets aside all doubts on the subject, and affords a certain guide to onr mercantile men on a point which has long been mooted without arriving at a definite conclusion:

SIR: The undersigned would beg respectfully to present to you the following facts:

The Collector of Customs at this port (assuming authority under circulars of Custom House fees, dated Dec. 12, 1868) requires the following fees to be paid: First—For delivery of merchandise from appraisers' stores, after examination by appraisers to importers, 20 cents. Second—Transfer permit from appraisers' stores to bonded warehouses, after examination by appraisers, 20 cents. Third—Oath attached to entries of merchandise of all kinds, 20 cents. Fourth—Entries of merchandise warehoused, rewarehoused, withdrawals from warehouse for consumption, transportation and exportation, indepedent of all charges for permits, &c., 25 cents.

Apprehending the collector is at fault in his interpretation of your circular, and respectfully calling your attention to the fact that goods are sent to the appraisers' stores for examination by Custom House officials, and not at the request of importers. Same examination applying to merchandise bonded. Transfer permits being required.

The charge of twenty-five cents on all entries under warehouse laws, while cash entries are exempt from any charges other than the regular and customary fees for permit delivery, invoices and bonds. With respect your obedient servants.

LARZELERE HUCHEY,
E. H. DAILEY,
Custom House Brokers.

To Hon. HUGH MCCULLOCH, Secretary of Treasury, Washington, D. C.

TREASURY DEPARTMENT, Jan. 16, 1868.

SIR: Your communication of the 28th ultimo is received, transmitting a letter dated the 22d ultimo from Messrs. Larzelere & Huchey and others, complaining of your action, under authority as alleged of Department Circular of the 12th ultimo, in requiring the following specified fees to be paid at your port, viz: First—For permit for delivery of merchandise from appraisers' stores, after examination by appraisers to importer, 20 cents. Second—For transfer permit from appraisers' stores to bonded warehouse, after examination by appraisers, 20 cents. Third—For oaths attached to entries of merchandise of all kinds, 20 cents. Fourth—For entries of merchandise, warehoused re-warehoused, withdrawals from warehouse for consumption, transportation and exportation, independent of all charges for permits, &c., 25 cents.

After duly considering the matter, I am of opinion that, so far as the fees specified in the first and second charges are concerned, your action therein is not warranted by the provisions of the circular to which you refer. The orders for the delivery of examined packages from the appraisers' stores cannot be considered as "permits," for they issue as a matter of course and, without any application therefor being made by the importer, and are merely incidental to the examination of the merchandise, which is done entirely in the interests of the Government. You will, therefore, discontinue the practice of collecting the fee specified in the first and second charges. The fee of twenty cents for the oath attached to entries of merchandise of all kinds, as specified in the third charge, is correct and proper, and is in accordance with the requirements of the said circular. See the first paragraph on the third page thereof.

In regard to the fee of twenty-five cents for entries of merchandise warehoused, rewarehoused, &c., specified in the fourth charge, which you allege you require to be paid under the provisions of the fourth line from the bottom of the first page of said circular, you are informed that said line was inserted therein through a clerical error, and that it will accordingly he considered by you as canceled and of no effect. The practice of collecting said fee will therefore he discontinued by you.

I am, very respectfully,
HUGH MCCULLOCH,
Secretary of the Treasury.

To J. W. CAKE, Esq., Collector of Customs, Philadelphia, Penn.

The announcement of a sale of $1,000,000 of gold by the Assistant U. S. Treasurer of this city on the 23d instant, selling $250,000 on that day, and a like amount on every third day thereafter, has produced great activity and a sharp advance in Legal Tenders, the selling rate, on the street, in snch amounts as our rather limited market afforded, being 75@76 cents.

City Stocks.

The sales of miscellaneous stocks in the Board, during the past week, have been confined to Spring Valley Water and San Francisco Gas. The former sold at $68@68 50 per share, while the latter shows a very heavy decline, selling at $80, against $90 the previons week, and reported private sales at $92. This fall is due to the incorporation of a new company, which filed its certificate in the County Conrt on the 13th inst., nnder the name of City Gas Company, with a capital stock of $10,000,000, divided into 100,000 shares, naming as Trnstees—Nicholas Luning, (snbsequently elected President of the company) A. Hayward, Thomas Bell, S. F. Butterworth, I. Friedlander, Lloyd Tevis and Henry C. Robinson. This company gives assurances of immediately commencing active operations, and the pnblic are already showing an appreciative interest in this laudable undertaking by petitioning the Board of Supervisors to extend the contract for lighting the city to a mnch less number of years than contemplated by the Committee which has the matter in charge.

Mining Share Market.

The mining share market exhibited increased vitality since our last similar reference, and at the closo most leading stocks show an improvement, and this advance seems to be based upon an apparently healthier condition of the market, which is predicated upon a more hopeful condition of the various claims on the Comstock lode. As to the White Pine district, the filing in our County Court of certificates of incorporated companies located in that region are augmenting very rapidly, no less than eight companies having recorded their certificates on the 18th instant. In this respect the Board of Brokers have adopted an excellent rule as regards new stock companies. They require the examination of the merits of the company hy a committee, and a payment of $500 instead of $100 as heretofore will have to be made before any company will he placed on the Board lst.

Reports from White Pine give the most glowing descriptions of the mineral wealth of that region, and its great extent. Despito storms, deep snows and extreme cold, large numbers are flocking to White Pine on every available occnsion. This wondrons belt forms part of the State characterized by Senator Sanlshnry as heing inhabited by "howling animals!" It is possible that the gentleman himself would not hesitato to utter a howl over the richest silver regions ever discovered.

BELCHER—sold within a range of $34@29 50, and closed at $30. The ore fonnd on the 200 level is reported to promiso well, and from present appearances of the mine it is believed they can get along without another assessment. On the 11th instant their liabilities amounted to $10,000.

CHOLLAR-POTOSI—declined from $170 to $165, and at the close realized $167. Dnring tho week ending February 12th 716 tons of ore were extracted. On the 11th inst. $11,279 in bullion was sent forward to the office in this city. Nothing important in relation to the mine.

CROWN POINT—receded from $68 50 to $65 50, and closed at $66 75....GOULD & CURRY has heen in the market at $109@106 50. The construction of the Truckee railroad will bring into the market thonsands of tons of low grade ore found in this mine, which it is thonght can then be worked with profit. Otherwise nothing special.

HALE & NORCROSS—has been in active demand at a material advance, rising to $99 on the 18th, and closing at $86. On the 17th instant they reached some good ore on the lowest level, which is reported to be at least seven feet wide, bnt what it may lead to is yet to be ascertained. ....KENTUCK declined from $231 to $218, improved to $224, and closed at $218. The first shipment of bullion on February acconnt amounted to $10,350 72.

IEPERIAL—has been quite active, declining from $125 to $104, and closing at $110. A telegram of Fehrnary 19th states that tho 1,000 level drift shows no change, and on the 1,100 level they are in barren quartz with an increase of water. The bullion so far received on February acconnt aggregates $16,255, against $19,464 same time in Jannary.

OPHIR—sold at $44 50@40, closing at $41. The shaft has been sunk to a depth of 730 feet. On the 17th instant tho pnmp with all its connections was in place, and they expected to start the machinery on the 18th, by which they would soon be enabled to prosecute drifting in a vigorons manner....SIERRA NEVADA sold at $25@21. For February account the bullion, so far, foots np $1,800. John Ferrie is now Secretary of this company, and the office is at 409½ California street....SEGREGATED BELCHER sold to a very large extent, improving from $9 25 to $12 25, and closing at $12. It is possible that the ore fonnd on the 200 level of the Belcher company may extend into the gronnd of this company at the 220 level.

AMADOR (Cal.) sold at $272 50. The first cleanup of this company in February will yield about $32,000, and for the whole month will probably reach $60,000. As near as the rock from the Badger shaft can he valned it prodnced $60 to the ton....GOLDEN CHARIOT (Idaho) sold at $40@50. Upwards of $28,000 has been received in hnllion on Jannary account. A dividend of $2 50 is payable to-day (20th.)....SAVAGE sold to a very large extent, improvivg from $62 50 to $72 50, and closing at $67 75.....YELLOW JACKET has been in good demand, selling within a range of $77@67 per share, and closing at $69

MINERAL RESOURCES. — The report of Rossitor W. Raymond on the mineral resources of the States and Territories west of the Rocky Mountains, has been sent in, referred to the Committee on Mines and Mining of the House of Representatives, and ordered to be printed.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Locations; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Amador Co., dividend, $6 per share	Payable Feb 10, 1868	
Bacon, Storey co., Nev., div	Payable June 10, 1868	
Belcher, Storey co. Nev., Oct. 31, $25	Jan. 30—March 2	
Chalk Mountain, Nevada co., Jan. 13, $2	Feb. 15—March 8*	
Chollar-Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12 1868	
City R. R., San Francisco, Jan. 6, $5	Feb. 10—March 6	
Caney, preferred Stock, div. 2½ per cent	Payable Feb. 10, 1869	
Chloride Mt Tun., White Pine, Feb 2, 50c	Mar 13—Ap. 10*	
Caney, Lyon co. Nev., Jan 9, $2	Feb 12—March 1	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $5	Payable Jan. 2d, 1869	
Gold Hill Cons., Storey co., Jan. 8, $4	Feb. 13—March 1	
Goubl & Curry, div., $7.50	Payable May 15, 1867	
Golden Charlot, Idaho, div., $2.50	Payable Feb. 10 1869	
Golden Chariot, Idaho	Annual Meeting, March 1	
Gold Hill M—dividend, $7 50	Payable May 15, 1868	
Golden Rule, Tuolumne co, div. 50c	Pay. Feb. 26, 1869	
Hope Gravel, Nevada co., Jan. 11, $1	Feb. 15—March 8	
Hale & Norcross, div. $125	Sept. 16, 1867	
I X L, Alpine co., Jan. 19, $1 50	Feb. 27—March 17*	
Imperial, Storey co., Nev., div	Payable June 20, 1868	
Juan Bautista, Santa Clara co., Nov. 27	Sale Jan. 30	
Julia, Storey co., Nev., $2.50	Feb. 10—Feb. 27	
Kennick, div., $20 per share	Payable Jan. 10, 1869	
Mt. Tenabo, Lander co., Jan. 23, 75c	March 5—March 30*	
Mohawk & Montreal, Nev. co., Feb. 10, $3	Mar. 15—Mar. 31	
Maxwell, Amador co., Feb. 9, $1	March 13—April 1	
North Amer. Wood P. Co., Jan. 15, $1	Feb 13—March 8*	
North Star, dividend, $5	Payable Aug. 15, 1868	
Oriental, Sierra co., Jan. 4, $2.50	Feb. 5—Feb. 20	
Peninsula, Storey co., Dec. 15, $10	Feb. 11—March 6	
Pacific Unassessable, div	Payable June 18, 1868	
Rattlesnake, Yuba co., Dec. 29, $7.50	Jan 21—Feb. 18*	
Silsbie Stur., Idaho, Feb. 8, $6	March 31—April 3	
Santiago, Silver City, dividend, $2.50	Payable Dec 19, 1868	
Sand Spring salt, dividend $1	Payable Jan 5, 1869	
Savage, Virginia, Nev., dividend, $2 50	Payable Feb. 11, 1869	
Star Creek, Nev., Feb. 17, $1.50	March 23—April 12*	
Talluiah, Humboldt co., Oct. 14, $17.50	Jan. 29—Feb. 27	
Virginia & G. H. Water Co., Dividend, payable Nov. 20, 1868		
Virginia, White Pine, Nev.	Annual Meeting Feb 27	
Yellow Jacket, div., $5	Payable Feb. 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, February 19, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 81½	82
United States Bonds, 5 20s, 1868	82½	82¾
United States Bonds, 5-20s, 1862	82	82½
Legal Tender Notes	74¼	74¾
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & Int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & Int.	
San Francisco City and Co. Sch'l Bds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	88	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863.	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864.	87½	89
Sacramento City Bonds	26	—
Sacramento County Bonds, 6s	65	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	—	75
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	—	80
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	66	67½
Spring Valley Water Co	66	68¾
State Telegraph Co	25	—
GAS COMPANIES.		
San Francisco Gas Co	91	95
Sacramento Gas Co	65	70
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	71¾	—
Central Railroad	50	—
North Beach and Mission Railroad	68	70
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	126	127
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	191½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	52	52½
Baltimore American	—	—
Belcher	29¼	30
Bullion, G. H	22	23
Crown Point	66¼	67
Cole (Va.)	10	11
Confidence	33	34
Consolated Virginia	8	9
Chollar-Potosi	166	167
Caney	3¾	4
Exchequer	25	26
Empire Mill and Mining Co	90	95
Gould & Curry	106	107
Gold Hill Quartz	50	60
Hale & Norcross	86	86½
Imperial	109	110
Julia	3	4
Justice and Independent	—	15
Kentuck	218	220
Lady Bryan	8	8¾
North American	11	12
Ophir	40	41
Overman	71	71½
Segregated Belcher	12	12¾
Savage	67	67¾
Sierra Nevada	21	22
Yellow Jacket	68	69
Union	—	—
United States	—	—
MISCELLANEOUS MINING STOCKS.		
Amador (California)	270	275
North Star (California)	—	—
Eureka (California)	230	235
Or Soto (Humboldt)	—	2
Golden Rule, California	12	13

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, February 19, 1869.

Flour, Extra, ₱ bbl	$5 25	@$5 50
Do. Superfine	4 25	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 80
Oats, ₱ 100 lbs	2 00	@ 2 25
Barley, ₱ 100 lbs	2 10	@ 2 25
Beans, ₱ 100 lbs	5 00	@ 7 00
Potatoes, ₱ 100 lbs	75	@ 90
Hay, ₱ ton	12 00	@18 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	11	@ 11
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	5	@ 6
Hogs, dressed, ₱ lb	9	@ 10

GROCERIES, ETC.

Sugar, crushed, ₱ lb	—	@	17
Do. China	10	@	12
Coffee, Costa Rica, ₱ lb	16	@	18
Do. Rio	16¼	@	17
Tea, Japan, ₱ lb	75	@	90
Do Green	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	10
China Rice, ₱ lb	6	@	7
Coal Oil, ₱ gallon	45	@	48
Candles, ₱ lb	16	@	18
Isthmus Butter, ₱ lb	40	@	50
Cheese, California, ₱ lb	35	@	40
Eggs, ₱ dozen	15	@	20
Lard, ₱ lb	40	@	42½
Ham and Bacon, ₱ lb	13	@	16
Shoulders, ₱ lb	6	@	8

Retail Prices.

Butter, California, fresh, ₱ lb	60	@	—
do. pickled, ₱ lb	50	@	—
do. Oregon, ₱ lb	20	@	28
do. New York, ₱ lb	35	@	40
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	50	@	60
Lard, ₱ lb	15	@	—
Hams and Bacon, ₱ lb	23	@	25
Cranberries, ₱ gallon	1 25	@	1 50
Potatoes, ₱ lb	1½	@	2
Potatoes, Sweet, ₱ lb	3	@	5
Beets, ₱ lb	3	@	—
Onions, ₱ lb	3	@	—
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	10	@	12
Peaches, dried, ₱ lb	10	@	12
Oranges, ₱ dozen	75	@	—
Lemons, ₱ dozen	75	@	—
Chickens, apiece	50	@	75
Turkeys, ₱ lb	23	@	25
Soap, Pale and Fine, ₱ lb	7	@	12
Soap, Castile, ₱ lb	18	@	—

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, February 19, 1869.

IRON.—Only: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.

Scotch and English Pig Iron ₱ ton	$40 00	@$41 00	
White Pig ₱ ton	36 00	@ 37 00	
Refined Bar, bad assortment ₱ lb	— 05	@ — —	
Refined Bar, good assortment, ₱ lb	— 04	@ — —	
Boiler, No. 1 to 4	— 04¾	@ — —	
Plate, No. 5 to 9	— —	@ — 04½	
Sheet, No. 10 to 13	— 04½	@ — 5	
Sheet, No. 14 to 20	— 05	@ — 5¾	
Sheet, No. 24 to 27	— 05	@ — 6½	
COPPER.—Only: Sheathing, 35c ₱ lb; Pig and Bar, 25c ₱ lb			
Sheathing, ₱ lb	— —	@ — 26	
Sheathing, Yellow	— 20	@ — 21	
Sheathing, Old Yellow	— 10	@ — 11	
Bolts	— 21	@ — 22	
Composition Nails	— 21	@ — 22	
TIN PLATES.—Only: 25 ₱ cent. ad valorem.			
Plates, Charcoal, IX, ₱ box	12 00	@ — —	
Plates, I C Charcoal	— —	@ 11 00	
Roofing Plates	10 00	@ 10 50	
Banca Tin, Slabs, ₱ lb	— —	@ — 35	
STEEL.—English Cast Steel, ₱ lb	— —	@ — 15	
QUICKSILVER.—₱ lb	— —	@ — 60	
LEAD.—Pig, ₱ lb	— 7½	@ — 8	
Sheet	— 10	@ — —	
Pipe	— 11	@ — —	
Bar	— 9	@ — 9½	
ZINC.—Sheets, ₱ lb	— 10½	@ — 11	
BORAX.—California, ₱ lb	— 35	@ — 38	

MINING CARS FOR WHITE PINE.—A shop on Fourth street is manufacturing a largo number of small mining cars for hoisting ores, to fill an order from White Pine. As fast as they are completed they are piled up near the street, and labelled "For Whito Pine."

"BY THIS SIGN YE SHALL CONQUER."—When the Emperor Constatine adopted his famous hattle symhol, he wrote beneath it *in hoc signo vinces*—"By this sign ye shall conquer." Tho same inscription might properly be affixed to another sign which is the symbol of thonsands of snccessful battles with the bodily ailments of mankind. "S. T. 1860 X," the trade mark of the famons PLANTATION BITTERS, typifies more victories than Constantine the Great ever dreamed of. Victories over dyspepsia, nervonsness, general debility, bilionsness, fever and ague, remittent fever, despondency, constitntional weakness, and a hundred other disorders and disabilities of hoth sexes to which tho heathen assailants of the Eastern Emperor were a mere baga'e'le. Whenever an invalid sees the emhlem, let him take the hint it is intended to give him, purchase the elixir, and conqner his complaint.

No Branch Office.

Our friends and patrons will bear in mind that we have no branch office in San Francisco, our U. S. and Foreiga Patcat Agency rooms being suitably arranged with our MINING ANN SCIENTIFIC PRESS printing office, at No. 414 Clay street. We have no partners in business exccpt the undersigned. DEWEY & CO.

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Mining Summary.

The following information is gleaned mostly from Journals published in the interior, in close proximity to the mines mentioned.

Our annual storm has come and passed, leaving its traces wherever its effects were felt. What damage was done to the mining interest in the different counties in the State, we have as yet been unable to learn, as but few of our weekly exchanges have come to hand, owing to the bad state in which the roads have been left by the storm, which fact will account for the meagreness of our weekly Summary in this issue.

CALIFORNIA.

AMADOR COUNTY.

Jackson *Ledger*, Feb. 13th: We are informed that Mr. Hutchings—who is acting as agent for a large company of San Francisco capitalists—contemplates erecting a quartz mill near Ione City, where it is said a good lead of quartz has been recently discovered.

In an article headed "Home Matters," the editor inveighs against the practice of capitalists sending their money outside of the State for investment in undeveloped and uncertain mines. He says: In this county there are numerous lodes only partially prospected that if fully developed would prove permanent paying mines; yet for the want of means the owners have been compelled to suspend work upon them, and they now lie idle, useless and undeveloped. If only a small portion of the money sent from the State to White Pine, was made to prove the partially developed lodes, we would doubtless have an addition to our paying ledges that would place this county in the foremost ranks of mining localities. The ledges about Pine Grove are evidently, many of them, of great value, judging from the yield as far as proven. This range, or system of ledges, has been greatly overlooked; quartz men from abroad deeming ledges outside of the Amador belt as unworthy of their attention. This is a great mistake. No mines in the county as far down as proven, have yielded richer average rock than the ledges in and around Pine Grove; and wherever this belt has been struck, it has given undoubted evidence of its ultimate value. There is no doubt but that this belt is but a continuation of the Grass Valley lodes in Nevada County; the characteristics of the rich rock in the two localities are the same, and free gold is as abundant almost in the Pine Grove ledges at the same depth, as in those of Grass Valley. Railroad Flat, in Calaveras County, is also a continuation of the same ledges, and the recent discoveries made in the last named locality, bear strong resemblance to those at Pine Grove. Within this belt are situated the Union, Pauch and Stevenson mines, all of which, as far as prospected, have given flattering evidence of their real value. Higher up in the same belt is the Tellurium, Craft, Vaughn and Pleasant Valley mines, all of which have been only partially developed, and yet each one for the amount of work done on them, has yielded as rich average rock as the most valuable mines in the county. All these ledges are lying idle for the want of means on the part of the owners to prosecute further work upon them. The most of these mines could be purchased at low figures compared with the flattering indications given.

CALAVERAS COUNTY.

Mokelumne Hill *Chronicle*, Feb. 13th: The late storm was by far the most severe of the season. Mokelumne Hill looked like a vast mortar bed. The streams are badly swollen, but we have heard of no serious damage resulting from the storm, with the exception of the caving of the tunnel which conveys the water through the ridge between here and Happy Valley.

There is no abatement of the excitement concerning the recent discoveries in Railroad Flat. Work is progressing favorably, despite the bad weather, and prospectors are making new strikes and locating claims.

At West Point times have been rather dull during the past season. Quartz mining has not been so remunerative as formerly, and less work has been done than for years previous. The absence of machinery for pumping out the water invariably found at a certain depth, has always been seriously felt, and is the principal cause of the lassitude being evinced. Milling facilities superior to those enjoyed by other localities are at the service of the West Pointers, but the great difficulty is in obtaining the rock. We are informed that efforts will be made, the coming season, to obviate the difficulty. From the vicinity of Murphys, Angels, and other portions of the county, the mining intelligence is encouraging. Mills are springing up, and labor is being prosecuted with energy.

A correspondent writing from Monitor Camp, says: There will be much prospecting done here the coming spring and summer. We have one of the finest looking ledges in the county, running from Mr. Beal's ranch on the north, through Lava Mountain, and passing near Monitor Camp, through Central Hill and across the Calaveras River to Bear Mountain. It is supposed to be a continuation of the Lower Rich Gulch lead, and has every indication of being a paying ledge. About the only place from which a pound of rock has been taken, is upon the claim of Davis, Fullock & Co., on Central Hill; at this point it is said to prospect well. They have a shaft 40 feet in depth, and a large, fine looking ledge. They will resume labor upon their shaft as soon as the weather settles and the rainy season is over.

The boys are all very busy at present, washing their dirt with free water,—a privilege they do not often enjoy in this camp.

INYO COUNTY.

Los Angeles *News*, Feb. 6th: The Cerro Gordo mine is turning out about four tons of bullion per day.

The Queen City mine in Lone Pone district has been found to have a lode of nine feet in width, and is reported to be one of the richest mines in the world.

Fourteen thousand pounds of bullion arrived in this city yesterday in charge of Gray Bros. & Arcado, from the Cerro Gordo mine. Three other trains are upon the road with 15,000 pounds from the same mine, and 20,000 pounds more is being shipped by ox teams. There is said to be now 60,000 pounds at the mines for shipment to this city. The bullion is said to contain silver, lead and copper, yielding about 25 cents of silver to the pound of bullion.

The attention of miners and the citizens of Los Angeles generally, has been attracted during the past year by the frequent and in many instances, heavy shipments to this city, from the Owens' River country, of silver bars, and now they all have an opportunity to judge of the mines from which this large amount of silver bars has come, by examining the great variety of ores from the Cerro Gordo mines, in the Lone Pine district, which are now on exhibition in this city. Those on exhibition have been pronounced here as the richest specimens of that class of ores that have been presented in a body as the result of one mining district, ever shown on this or any part of the Pacific Coast.

MARIPOSA COUNTY.

Mail, Feb. 12th: Geo. W. Payne, owner of a quartz vein situated on Specimen Gulch, near the town of Colorado, some two weeks since, struck a pocket which yielded him 72 ounces of pure gold; since which time a piece of eleven ounces, and other scattering gold, has been found. Mr. Payne has, at intervals for five years past, been prospecting this vein, which now promises to him a rich reward for his past labor.

It is reported that the Mariposa Co. is about to commence operation on the quartz mine which is situated at the lower end of the town of Mariposa. There is upon the mine a portion of the 50-stamp mill, which was built several years ago.

Gazette, Feb. 12th: During the past week two enterprising Indians have been scraping up the dirt for two or three inches in front of old store sites, and taking it down to the creek and panning it out. They have averaged $4 or $5 a day for their labor.

The owners of the Maggie Russell mine, situated near the Merced river, are about to enter into a contract to sink a shaft 100 feet, and the contractors to take out 1,000 tons of quartz ore. This mine prospects well, and the owners anticipate heavy dividends when it is fairly opened and thoroughly developed.

Our imp, while on his way to dinner yesterday, in deep thought as to how the new roller would work, suddenly spied something shining on the ground, and immediately "went after" it, and after washing the mud off, it turned out to be a piece of quartz "lousy with gold."

Mr. G. W. Payne made a very lucky strike a few days since near Colorado. He took out about $2,000 in a short time, and among the lot of specimens found by him are some as pretty as one would wish to see.

NEVADA COUNTY.

Transcript, Feb. 9th: Keith & Co. have located five claims of 100 feet each on Greenhorn creek. The claims commence at Osborne Ravine, and extend down the creek to the falls below.

The 40-stamp mill at the Star Spangled Banner mine, is to have another battery of ten stamps added as soon as the lumber can be gotten on the ground. The lead is so large and the mine so thoroughly opened, that rock can be obtained faster than 40 stamps can reduce it. The mammoth rock breaker can break the ore fast enough to keep the 50 stamps in operation constantly. In order to put up the additional battery, it will not be necessary to suspend work, and the mill will continue in operation. In the recent improvements the building was sufficiently enlarged for 50 stamps, so that all that remains to be done is to put them in place. When the new battery is added, the Banner mill will be 20 stamps larger than any other mill in the county, and one of the largest in the State.

Feb. 10th: A project is now on foot to get an outlet for the extensive range of rich ground extending from Badger Hill to Columbia Hill, from the middle Yuba. The parties undertaking this work are Mills, McMurry, Cook and Hunter. They propose to commence 100 feet from the river, and run a bed rock tunnel 1,900 feet to Badger Hill. By this tunnel they will be able to clean up to the bottom for three miles, and to wash off one of the richest ranges on the coast. It is estimated that the enterprise will cost in the neighborhood of $80,000.

The company engaged in mining at Relief Hill have been running for the channel for three or four years, and expended a large amount of money in prospecting. About three weeks ago the Welsh Co. succeeded in striking the channel, and since that time this company has been taking out an average of $12 per day to the man. Quite a large number of companies are at work, and they have been greatly encouraged by the success of this company. Relief Hill is destined soon to become a prosperous mining camp.

Gazette, Feb. 9th: English & Wells report five and a half feet of snow on Bloody Run Hill, between Moore's Flat and Lake City, yesterday.

Daniel McCarty and 12 other men came out from Eureka to Humbug, yesterday, on snow-shoes. McCarty reports the snow 8 feet deep at Eureka, and 10 miles above that point, near the head of Cañon creek, it is between 15 and 20 feet deep.

Grass Valley *National*, Feb. 8th: The proprietors of the William Penn mine, situated east of Grass Valley, have let a contract to sink on the ledge to a depth of 100 feet for the sum of $1,850.

Grass Valley *Union*, Feb. 9th: Yesterday Henry Scaddon struck good-looking rock in the shaft he is sinking on Union Hill.

Feb. 10th: The constant storms of the last four or five days have prevented the outside prospectors from doing a great deal of work, but at the mills, and where there are sheds to work under, mining is very lively. The spring will be in all probability a backward one, and consequently many mining enterprises will be slow in starting.

The North Star Co. is taking out very rich rock, the gold running through it in the most beautiful sheets. Yesterday, the richest ore which has ever come out of that mine was brought to the surface.

The O'Connor mine is being worked, and some excellent pay rock has been brought to the surface.

Last evening, we went into Wells, Fargo & Co.'s office, and took a look at a couple of gold bricks which came from the Eureka mine. The bricks were the result of two weeks' run, and were shipped at a valuation of $20,000.

EXCELSIOR.—*Gazette*, Feb. 9th: A gentleman from Meadow Lake informs us that the snow at that place on Sunday morning was ten feet on the average, and more falling rapidly.

Transcript, Feb. 13th: The large reservoir of the South Yuba Canal Co., at Blue Tent, broke on Wednesday morning. A gap of fifteen or twenty feet was made in the large embankment, and the water went out with a terrible rush, sweeping everything before it. The reservoirs of the Golden Hill Co. were broken, and considerable damage done to the flumes of Sailor Flat companies.

Gazette, Feb. 15th: The North Bloomfield Gravel Co. expect to employ 100 men and 15 pipes in their claims as soon as they can get the latter in readiness.

Grass Valley *Union*, Feb. 14th: The Graniteville correspondent writes: At Graniteville business is rather dull at this season, but few of the quartz mills running. The Birchville is running upon their own rock and yielding finely. The small supply of wood which they have on hand will be the only reason that will compel them to discontinue crushing. Veatch & Powell of the Erie (more familiarly known as the Jim Crack mine), are running upon rock taken from their mine, and is one of the best paying mines in the district. Black & Loring's mill is running upon rock from the Banberry & Stacey ledge. This rock averages well, and regularly pays a good dividend to the owners. Clark & Poquillion's mill, just above town, is idle at present, but will start in the spring upon custom rock. Business will open lively in the spring, as the North Bloomfield Co. will continue their line of works, and will employ a large number of men, whose trade will naturally come to Graniteville.

At Snow Point mining has entirely ceased, owing to the severity of the winter. There are some very valuable gravel claims here, which will be opened in the spring. At Orleans Flat, Wm. Oberman has been at work getting a set of claims ready to start up in good order as soon as the season will allow. At Moore's Flat the Eagle Co. are raising a shaft in their diggings, and will commence early in the season to wash their rich gravel. This claim is considered the best one on the Flat. The Piute Co. have sold their grounds to a Chinese Co. In former years this claim paid very richly. Hickey's, as well as the Illinois Co., have suspended operations for the season. The St. Lawrence has been sold to a Chinese Co., and will give them a good return for their outlay. Knotwell & Atwater, of the Paradise claim, made a fine run as the closing one for the winter, and will commence in the spring with a fine prospect of making a good summer's work. Business is quiet at Moore's Flat this winter, in consequence of the claims mostly being idle. At Wolsey's Flat mining has closed for the winter. At Bloomfield matters look more lively, as there are many waiting for the North Bloomfield Gravel Co. to commence working their claims.

PLACER COUNTY.

Auburn *Herald*, Feb. 13th: The Colfax correspondent writes: Quartz mining is still being carried on with renewed activity. The Rising Sun Co., the pioneer mill in this district, has undergone great improvements in the last three months. Increased and expensive machinery has been added, and they are sinking their shaft still deeper. At the depth of 180 feet, the ledge offers inducements to still sink, and the company possess the energy and means to prosecute the work systematically.

The Montana Co. has determined to prospect on an extensive scale. From tests already had from their claim, they feel justified in expending some thousands of dollars in sinking on their ledge. They have held a meeting lately, and will have machinery on the ground in a short time.

PLUMAS COUNTY.

Quincy *National*, Feb. 6th: A gentleman from the North Fork informs us that Thompson & Mather have struck some rich diggings in the mountain above Carrihoo on the North Fork. They are averaging $6 a day to the hand, with a rocker, also that Buck Lamb has discovered diggings higher up, that pay equally well. Also that E. R. Drake has good prospects in the same locality.

Bryan & Boston at the old Bamboo claims on North Fork are engaged in cutting a large race, intending to turn the river in the spring.

From Cherokee we have the following items: White & Steward, have recently discovered a very rich quartz ledge, near Cherokee, not far from the Caledonia quartz mill, which bids fair to make them a fortune.

The Caledonia mill is running and paying well. The last week's clean up yielded far better than usual.

Judkins & Kellogg's mill is in full blast and is doing well. The steam hoisting works lately erected at their mine works to a charm. They have their rock hauled from the mine to their mill on sleighs.

The Greenville correspondent writes that Bidwell & Co. are fitting up the old Waterworth mill, near Greenville, and intend working the tailings from the several mills in this vicinity, if, after trying the experiment, they find pay to justify them.

TRINITY COUNTY.

Weaverville *Journal*, Feb. 6th: The flume of Davidson's ditch, across Brown's Creek, was struck by a falling tree on Thursday of last week, and the long span across the bed of the stream knocked out. Five companies who are mining on Union Hill are thrown out of employment until the break is repaired.

During the present winter Mr. McGillivray has extended his ditch about three miles further down the river.

The late storms have set all the Buckeye boys at work, with good prospects ahead.

Mining is being briskly carried on in Weaver basin. Hocking & Co. have already stripped a large piece of bedrock. Their claim was perforated with tunnels, so that by simply turning the water over the bank it would cave without gouging.

Since water came they have been running day and night. Mr. Orson Fox will have his new reservoir repaired in four or five days and will then begin opening his claim in the hill. He found considerable gold in the surface while sluicing out his reservoir, and says there are a thousand acres of surface along the ridge that would pay if cheap water could be had.

Hinds, Dixon & Swift are opening a claim in the banks of Weaver Creek, about 1½ miles above Douglas City, and, it is said, obtain rich prospects. Doliffe & Willey are prospecting a claim on the other side of the creek, nearly opposite Hinds & Co., and are also supposed to have a good thing. Estes & Co. are extending their water race and intend to put in their dam and take the water out some 400 to 500 yards higher up the creek.

We are informed that Hager & Haas have discovered a back channel in the Daey claim of extraordinary richness, and withal extensive. Our informant says that Field & Culver's claim is paying them from $12 to $16 per day to the hand, with four men at work. He also says Lorenz & Jacobs have expended about $4,000 in getting ready their claim on Red Hill, and that they will take out $25,000 or $30,000 this winter.

ARIZONA.

Prescott *Miner*, Jan, 23d: Jos. Young, who returned here from a visit to Black Cañon Creek last week, informs us that when he left the diggings there were six companies sluicing, and many others getting ready for sluicing. He says he does not expect to hear of very many rich strikes being made in Black Canon, but is confident that miners can make from $4 to $10 a day there.

The prospects of the country never appeared better, the Sterling mine is a success, the placer mines of Black Cañon and Lynx Creek are paying well.

We learn that a party of miners from Wickenburg are prospecting the Placeritas, with a view to working them, and another party are preparing to go to work on a quartz ledge. Lamberson & Cullumber are preparing to run arastras by water power, and other farmers were talking of building wheels and arastras.

A private letter from Wickenburg says that business there was good. Kraus, Rees & Co. were running their mill and making the rock pay well. The Vulture Mining Co's 20-stamp mill was also running and paying

A rumor was current in town this week, to the effect that a Pima Indian had found rich gold diggings in the Hacquehila Mountains.

IDAHO.

Silver City *Tidal Wave*, Feb. 2d: The coal mine on Reynolds Creek is still being developed, and its owners are more sanguine than ever that they have it on the hip. The vein continues to concentrate as the tunnel goes in.

Wells, Fargo & Co. shipped from their office in this city, during the month of January, bullion valued at $114,000.

Same, Feb. 5th: Never since the discovery of Owyhee have the mines shown any better or yielded a better class of ore than at present. Cal. Morton showed us a specimen of Golden Chariot, picked up by him a day or two since, that is equal to anything ever seen here since the days of the Poorman discovery in silver, and superior in gold to the best ever hitherto produced in the camp. We do not pretend that the specimen shown us is a sample of the present products of the mines, but frequent observations of the ore from the Ida Elmore, Golden Chariot and Poorman, enable us to say that the quality of the ore is improving on the average of the last years' productions, and that at no time have prospects been brighter for lasting mines and large rewards, always excepting the discovery of the Poorman, where the ledge was found lying flat, and was 90 per cent. silver.

Owyhee *Avalanche*, Jan. 30th: The Rising Star mill at Flint, has stopped temporarily to make some changes in the machinery.

Owing to some misunderstanding between the mill and mine owners, Black's mill has stopped for the present.

NEVADA.

REESE RIVER.

Austin *Reveille*, Feb. 6th: We saw to-day in the cabinet at Boalt & Stetefeldt's assay office a very fine crystal of polybasite, obtained from the Buel North Star mine. It is pronounced to be the finest crystal of that mineral yet produced in this district. The crystal is nearly a steel-gray color, and is large and beautiful.

WHITE PINE.

Austin *Reveille*, Feb. 6th: About 10 o'clock this morning, two teams arrived in this city with machinery for McCone's quartz mill at White Pine; and shortly afterwards came eight other teams from Dayton, hauling machinery for the quartz mill of the Union Co., to be erected in the same district. We learned from the teamsters that there were 22 teams behind hauling machinery for the same mill.

OREGON.

Roubrg *Ensign*, Jan, 30th: Some time since, a letter written by one Foley, from Cow Creek, in this county, was published in the McMinnville *Courier*, in which said Foley claimed that genuine tin ore had been discovered in the vicinity of Cow Creek. It now appears that Foley had a reasonable foundation for the conclusion to which we arrived from an examination of the ore. Mr. William Briggs, of the Cow Creek Mining District, this week gave us a sample of the ore taken from the vein mentioned by Foley, and it certainly answers the description of tin ore in every particular, and it is said that the test to which it has been put convinced those who examined it that it is tin. Mr. Briggs also permitted us to read a letter from Thomas T. Boulin, of San Francisco—who has had a sample of the ore carefully assayed—in which Mr. Bouldin asks for information in relation to the lead, and states that it exhibits enough to warrant the expenditure of money. He further assures Mr. Briggs that, if such ore can be found in sufficient quantity, he is willing to undertake the development of the lead.

UTAH.

Salt Lake *Reporter*, Feb. 2d: We were called upon yesterday by Mr. La Baume, of Premontory City, who reports a lively excitement there over the newly discovered gold diggings, 40 miles west. Mr. La Baume found the placer diggings on the south side of Raft river range to be very rich, yielding 30 cents to the pan on bedrock, with fine gold all the way through the gravel down, of good prospects. It is about five feet to the bed rock. These diggings are about ten miles from the nearest point on the railroad line, and lie along the streams known as Indian creek, Dove creek and Sagebrush creek. The placer diggings lie nearly midway between the Peak and Spring Bay, the most northern point of Salt Lake. The creeks mentioned will furnish enough water for only four or five months in the year, and we are not informed what facilities exist for a better supply, but as the mines are very rich it will probably be found. Clear Creek runs along the northern side of the range, and there are quartz mines in the mountains, though little is yet known of them. Many parties are preparing to "go in" as soon as the snow will allow them to work.

Burying Silver in China and India.—The well known fact of the tendency of these countries, since centuries, to absorb the silver of the world, is accounted for in a degree by the statement of a recent traveler in China that quantities of the metal are habitually buried. He conjectures that since the present rebellion began, the Chinese have buried $500,000,000 worth of coin, most of which is silver and much of which will never be recovered. "It seems just as natural," says Parton, in an article in *Harper's Magazine*, "for the inhabitants of Hindostan to bury a bag of silver in some out of the way corner of a field, as it is for a New York merchant, at half past two P. M. to send round his money and checks to the bank. It is buried in the deepest secrecy. As in France, during the revolution, so in all countries, at times of civil commotion timid people hasten to hide their treasures beyond the reach of the marauder and taxgatherer."

When railroads are built, and foreign enterprise begins to leaven in the great interior of China, the shrewd conservatives of the orient will probably discover that there are better uses to put their hoarded capital to than burying it. They will then cease burying their "talents of silver," and will set it afloat in the world, trusting in the all-sufficient safeguards of commerce and civilization, and China will at once begin to exert an influence, and feel that she is a power, in the world.

Magazine of Travel, Geography and Adventure.—A new English magazine, to be edited by the Assistant Secretary of the Royal Geographical Society, is entitled *Illustrated Travels*. It is to treat of different parts of the world in succession, and is to be a magazine of "travel, geography and adventure."

Engineering.

Destruction of Rich Bottom Lands by River Debris.—An ex-president of the Northern District Agricultural Society dwells upon the wholesale damaging effects of the Yuba, as an example of all our mountain rivers, on the rich adjacent bottoms between the foothills and the valley's drain. He says:

"The river channels are filled up from twenty to thirty feet, or within a few feet of the banks along these bottoms, so that almost every rise of water overflows the land. Upon these lands were our orchards, the most celebrated and extensive in the State, worth from $25,000 to $250,000. These orchards are beginning to die out. A few trees did not bud in the spring, being dead; the remainder came out and bloomed and set the fruit, and then died, so that the peach crop was a failure. Hundreds of acres are entirely dead, and the remaining trees must die the next or succeeding year."

The cost of leveeing, and the difficulty of setting limits to the rivers, are engineering problems which may be solved by many a farmer properly studying his situation, and profiting by the issue of like attempts especially along the American, Bear, and Yuba rivers. The subject is one worthy of attention by engineers, as large tracts not far from the railroad, are held to be nearly worthless, which might be protected by levee systems embracing more than the few isolated farms constituting the usual objects of pretection.

Tunnel Under the Straits of Dover. Of this project, the London *Daily News* of December 25th, says: "It must be remembered that the difficulties to be encountered in tunneling beneath the Straits of Dover are of different character from those which the French engineers have had to meet in tunneling through the Alps. The soil to be traversed in the former instance would probably be the "second chalk formation," which may be assumed to extend in an unbroken course from the place of its uprising in England to the place in which it makes its appearance in France. It need hardly be said that the difficulty in perforating this soil would be very much less than of perforating the hard and complicated material which has been encountered by the French engineers. The workers in the suggested tunnel would be exposed to enormous risks from the effect of the pressure of the sea upon the stratum through which they would have to work. Again and again the water burst into the Thames tunnel and drove the workmen out. And then the workmen in the Thames tunnel had but a comparatively short distance to run when they were threatened with an irruption of water. If such an event threatened workmen engaged nine or ten miles from either outlet of the suggested tunnel, escape would be hopeless. In a short time the whole length of the tunnel would be filled with the waters of the sea, and the labor of years would be rendered useless.

We urge these considerations, however, not as deprecating the suggested attempt. Three eminent engineers, Messrs. Hawkshaw, Brunlees, and Lowe, have pronounced the plan to be feasible; and the estimated cost—nine millions sterling—though large, is still reasonable when the value of the tunnel is considered."

The Snow-sheds. — Railroad men that came down from the mountains recently, speak highly of the efficiency of the snow-sheds along the Central Pacific line, which are said to stand firm while avalanches of snow shoot over them from the hill sides. The damage to the railroad in the Sierras, and the consequent detention of trains which have of late occurred, appear to have been mainly caused by the snow slides. The destruction of the trestle work below Cisco was caused by a snow slide, and it is said another occurred between Truckee and the summit.

Government Surveys in Arizona.—The Government surveys are to be continued in Arizona the present season. R. W. Norris, C. E., late tide land surveyor of this city, has entered into a contract with the Surveyor-General for continuing the surveys on the Gila, and will depart for Arizona in a few days.

The New York Pneumatic Despatch Company have been engaged in tunneling under Broadway for about three weeks. Their progress is not over ten inches daily.

Drowning Out, and Drying Out.—Engineering must come to the aid of agriculturists in preventing these calamities, to which our peculiarities of climate and topography subject so large a proportion of otherwise rich agricultural area. Land is valuable according to its uses. It is the legitimate province of the engineer to know all about the capabilities, and possibilities, of drainage and irrigation, and of opening up lands to a more convenient market. If profits of any kind are more worthy or better deserved than ordinary, it is these which accrue so munificently from "speculations" of this kind, in regard to which capital is always ready to listen and learn.

Proposed Railroad from Limon Bay to to the Gulf of Nicoya.—The Secretary of State of Costa Rica has entered into a contract with Edward Reilly, Alexander Hay, Mutt McCartney and David Viekers, citizens of the United States, for the opening of a railroad across Costa Rica from Limon Bay to the Gulf of Nicoya. The capital is to be $10,000,000; the headquarters of the company to be in New York, Philadelphia, or Boston. The company is to commence its surveys within three months after the ratification of the contract, and within the four following months to spend at least $50,000 in actual work on the road, and the first thirty miles must be finished in complete order from Limon Bay within eighteen months after the signing of the contract.

Irrigation in Los Angeles County.—Mr. Louis Wolfskill is sinking a second artesian well on his ranch, the Santa Anita. He has a flowing well down a little over a hundred feet; and, although his second well runs freely, he intends to sink still deeper to procure a larger supply, and then to make a reservoir to hold the water for distribution at pleasure. This can be done by throwing a line of single embankment across a natural basin, furnishing a large reservoir for irrigating purposes.

Irrigation and Drainage Projects in Tulare Valley. — A Washington correspondent writes: The Committee on Public Lands have not yet reported on the bills for irrigating one portion of California that is too dry, and for draining another part that is too wet (all around about Tulare Lake), but the advocates of these two measures are at work, and believe that *their* bills will be passed.

A Peruvian Railroad.—A letter from Lima says that the government is encouraging a railway projected between Lima and one of the cities at the Peruvian headwaters of the Amazon. Admiral Tucker, it says, has reached in steamers, a point only fifty leagues distant from Lima, through rivers which directly connect with the Amazon, and this road will place Lima in immediate connection with that point.

Alameda Railroad.—The report gains credence,—says the *Alta*,—that the Alameda Railroad will be extended this year to Oakland one way and San José the other, and that work will be commenced upon it this season.

Wrought Iron Water Pipes.—The President of the Spring Valley Water Company is indignant at the imputations cast upon the stability of his water pipes. They didn't burst—only a landslide destroyed the connection.

A steam tramway from Hamilton to Treasure City is contemplated.

Borax for Washing.—Refined borax, it is reported, is used by the women of Holland and Belgium as washing powder instead of soda. The proportion of a large handful of borax powder to about ten gallons of boiling water, it is asserted, makes the linen beautifully white and saves half the expense of soap.

Inoculation for Hydrophobia.—A physician at Bordeaux, France, thinks he has discovered a plan for the prevention of hydrophobia by inoculating men and brutes with the poison of a viper feared in the south of France, but whose bite is not fatal.

Mythology tells us that Io died because of her intense love for Jupiter; but the charm of the romantic story has lately been destroyed by a chemist discovering Iodide of potassium.

Tennessee Mineral Lands.—Captain Moses W. Nelson's mineral lands in Carter and Johnson counties, Tenn., have been purchased by English capitalists for $10,000,000.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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San Francisco:

Saturday Morning, Feb. 20, 1869.

Notices to Correspondents.

ONE INTERESTED.—The age of victims of small pox in this vicinity, is stated to have been as follows: Under 1 year, 38; from 1 to 2 years, 29; 2 to 5 years, 63; 5 to 10 years, 46; 10 to 15 years, 20; 15 to 20 years, 27, 20 to 30 years, 126; 30 to 40 years, 88; 40 to 50 years, 44; 50 to 60 years, 18; 60 to 70 years, 5; unknown 1—total, 505. This statement would have been instructive had the ages been specified according to the places of nativity; for instance, the whole number of victims whose country was England and Wales, only amounts to seven, yet from the British American provinces they enumerate 13, and from Australia 7; or the two nearly three times the number of victims from England and Wales; while the number of our citizens who are natives of the last named, far outnumber those from the two first. The cause of the difference is easily accounted for, viz: infantile vaccination has been general for many years in England, and not so in the provinces and colonies.

J. H. R., West Point, Calaveras County.—You are in the Sacramento mineral district, and the U. S. Surveyor for the same is S. M. Wilson. We have published a pamphlet containing the National Mineral Land Law, and blank forms, five in number, to be used in obtaining a patent. Price of pamphlet 25 cents; blanks 12½ cents each, or $1 per dozen. As to the length of crank on a windlass with which a man 5 feet 10 inches tall can work to the best advantage, the question, though simple enough, is one calling for a good deal of theoretical, as well as practical knowledge of the subject, and in regard to which "experts" would be very likely to disagree.

PYROMETER.—The capacity of bodies for heat is materially effected by their density. Whenever density is diminished, capacity for heat is increased, and *vice versa*. For instance in solids, if we suddenly compress a piece of metal, it becomes hot, because its capacity for heat is diminished; consequently, in its compressed or denser condition, it contains less heat than it did prior to compression. A bar of red hot iron when subjected to great pressure, as when passed through a powerful rolling mill, becomes nearly of a white heat.

MECHANIC.—The weight of No. 10 plate iron, Birmingham wire guage, is given on Wm. Johnson's wall chart of the "Properties of Metals chiefly used in the Arts" as 5.5 per square foot. Being a reference chart for iron dealers, this is probably more to be depended upon than your several Mechanics' Companions.

WHISKY.—Alcohol is six times more expansive by heat than mercury, and water only about twice as much. Pure alcohol will measure, in the hottest part of summer, about five per cent. more than in the depth of winter.

Overcoming Difficulties in Amalgamation.

The working of the Rising Star silver ores, in Flint District, Idaho, by roasting and amalgamating in pans, has encountered very great difficulties, by reason of a considerable quantity of iron which, in company with copper and silver, amalgamates very readily, but on being melted after retorting, separates in the form of infusible lumps, and must be removed from the surface of the liquid metal before the bar can be cast. This iron not only causes an imperfect extraction of silver from the ore, but it combines also, in different proportions, with the precious metals in the crucible, as stated, and is, on the whole, so injurious that a continuation of operations with such results is found quite inadmissible.

The ore consists of rich argentiferous gray copper ore (fahlerz), miargyrite, some ruby silver, zinc blende, iron pyrites, some galena, and sulphuret of antimony. The fahlerz also contains lead. After long and fruitless experiments to render this iron "amalgamatable," Mr. Kustel, the metallurgist, was engaged to introduce his leaching process, the application of which, as we are informed, has resulted in a most flattering success.

The roasting was suitably modified, and six leaching boxes (seven feet by six and a half each, and eighteen inches deep) constructed, large enough to receive one ton of roasted ore, as a charge, to each box. The leaching with hot water requires three hours, and about two hours more are required for draining, before the ore is removed into the amalgamating pans. The greater part of the base metal ores being carried out during this leaching, the iron is, of course, entirely prevented from entering the amalgam. By the aid of this process the silver is now extracted to 88 per cent. of the fire assay; with a saving besides of four-fifths of the quicksilver lost prior to leaching.

The formation of this iron amalgam is a very strange, and inexplicable circumstance in pan amalgamation. It is not formed, says Mr. Kustel, in consequence of the action of the chloride of copper on the metallic iron ground off from shoes and dies; and does not occur where a great quantity of iron pyrites is in the ore provided that other base metals are not to a considerable extent present at the same time.

Where it occurs, it forms, after retorting, a black, spongy metal, like magnetic iron, and melts from this state easily into solid lumps of iron; but after arriving at that stage, it is impossible to fuse these lumps over again, even at the intensest white heat.

The Rising Star mill is said to be a magnificent building, provided with the best machinery and excellently arranged. There are thirty stamps, crushing dry. From these the ore is at once conveyed by means of endless screws and elevators to three of O'Hara & Thompson's self-discharging roasting furnaces. These have each an 80-foot long roasting-hearth, with a 6-foot feeding, and 18-foot cooling-hearth. The ore introduced into them is taken by two shovels or plows fastened on an endless chain, and carried through the hearth, which is heated by three fire-places, and discharged in from five to six hours; the discharge being continuous, at the same rate as the stamping and feeding. Only two men attend the roasting of the three furnaces.

Of the silver contained in the Rising Star ore, 94.8 per cent. is turned into chloride of silver. It is found somewhat difficult to manage properly the base metals, without interfering with the proper percentage of chloride of silver; and there are other difficulties connected with these furnaces, which, however, are not deemed at all insurmountable. At the end of the furnaces are the leaching boxes, whence the ore is transported to the pans. These ought to be placed near the leaching tubs. The settlers used at the Rising Star mill are Belden's, discharging the pulp through Hungerford's concentrators, by which means a good deal of quicksilver and amalgam is saved.

Parting of Gold and Silver.

This is what is usually understood by "refining"—a simple and inexpensive process, consisting in a mere boiling of the bullion in nitric or sulphuric acid, by which means the silver is dissolved, drawn off separately, and precipitated, while the gold remains behind in the shape of a brown powder looking very much like mud. Little space, and scarcely any outlay, are required for apparatus; and the principal skill necessary is in working carefully, so as to prevent small leakages and wastage. Where gold is handled in the shape of mud, and silver in tubs of cement resembling slaked lime—the condition it is in after being precipitated from its solution—another not unimportant quality in the refiners, as determining the cost of refining, is a scrupulous honesty; as the most trifling waste, where hundreds of millions' worth of bullion are separated, would not require a long continuance to amount to a million or two of unperceived loss at the expense of the miner as a matter of course.

We learn from Washington that an old scheme, aiming to engineer into private hands the parting now done, with perfect facility and economy, in the mints, is before Congress in the shape of a bill introduced by Senator Stewart of Nevada, and vigorously pressed by the representatives of the leading assaying and at present the only active refining establishment in this city—having, by a judicious and unstinted use of capital, and by large capitalist connections, together with some legislative manipulation at Washington, now nearly succeeded in driving all competition in assaying and refining out of the field.

The question is, therefore, whether the Superintendent of the Mint shall be authorized to exercise such discretion as he may see fit, in receiving from the firm in question, "deposits of refined bullion suitable for coinage, and paying the depositors thereof in unparted bars."

Were this bill to become a law, it seems all but certain that, instead of having our bullion parted at fair rates, the price for doing such work would hereafter be at the bidding of a monopoly. As all our gold bullion contains silver, and nearly all our silver bullion contains gold, the privilege of fixing tolls upon the products of the miner, which must of necessity pass through the refiner's hands, is evidently no mean prize to be coveted—a result certainly justifying the most patient, laborious and powerful exertion, from year to year, of the most skillful managers that can be put forward with such a scheme, by the parties interested, as a business enterprise alone.

The rate of exchange is left to the discretion and honesty of the Superintendent of the Mint. But that discretion is, under the manipulation of this bill, of such a character that a little negligence or nominal stupidity on the part of that public officer, may compel every miner of the Pacific coast to put aside his tribute to a private assaying firm; and when probity, and easy-going good nature, not to mention stupidity, are the worst offence necessary to be committed under so happily conceived a bill for the purposes in view, it is possible for even a tolerably honest Superintendent of the Mint to succumb to the temptation, for example, of permitting a friend to become interested in the prosperous refining company in question; while the differences would be so small, that the bullion-producing public would never find it out.

This project is admirably planned, and very plausibly put forward. But what are the evils that call for a discontinuance of refining in the Mint? "It is not shown with any clearness," says the *Bulletin*, "that if the whole business of refining were placed in the hands of private parties, it would be done any better or any cheaper; but it is rather made to appear that the business is profitable enough to be coveted by private parties, and that its exclusion from the operations of the Mint would lay heavier burdens upon the Government for the support of that institution."

We are informed by a late Washington correspondent that, "as the bill has been somewhat modified in its principal features from the shape in which it was presented last session, it will probably be passed."

First let it be shown that the interests of the public are the moving cause, and it will be easy to determine whether any modification of the measure is likely to be an improvement, such as will justify our representatives in lending countenance to it, or in permitting themselves to be led into any "entangling alliances" thereby. We have heard of no miners—*bona fide* bullion producers—petitioning for the proposed change.

SCHOOLS FOR INDUSTRIAL SCIENCE.—A marked feature in the advance of modern educational institutions is the facilities afforded for the acquisition of the practical arts and trades; not by mere rote, as is usual with mechanics, but with due attention to the interesting principles applying in every case, the understanding of which makes the true mechanic, useful in his place because his soul is in his work. Except in "running a quartz mill," or the like fancy pursuits, the utility of a thorough knowledge of the theory applying, as well as of the practice, in money-making industrial pursuits, is not often questioned, or at least is not held to be an absolute disqualification. One of the largest schools of applied science in the world is the *Ecole Central des Arts et Manufactures*, in Paris. It has 500 pupils. Amongst 2,000 young men who have left this school, the career of 1,394 has been recently traced, and the issue was this: 247 had died, while of the others 480 were engineers or superior officers of railroads; 54 were mechanical engineers; 124 were iron masters; 280 manufacturers of considerable eminence; 55 architects; 35 contractors for public works; 42 professors of the applied sciences. The rest filled honorable posts in trade or in the service of the French or foreign governments.

In addition to some very valuable institutions of the kind that have grown up in this country, it is stated in the Memphis *Appeal* that Gen. R. E. Lee has now in operation at Washington College, Virginia, a practical department for the benefit of young men who wish to become master workmen as carpenters, machinists, etc., in which students are instructed in the principles of mathematics required, and in the use of the tools.

THE HAFENEGGER POWDER EXPERIMENTS, at Fort Point, Friday, were quite successful. One massive, hard rock, 38 feet in length, by 20 in bight and breadth, irregular, (estimated to contain 16,000 tons) was broken through and through, about two-thirds being thrown off. This was done with three pounds of the strongest powder in a 1¾-inch hole sunk to the depth of ten feet. The cartridge was only 1¾ inch diameter, and no tamping was used in the charge. We believe there is no record of such an exhibition of power from so small amount of any powder heretofore in use. For want of time we shall give particulars next week.

THE GREAT BOILER from McAfee & Spier's works, which has been seen engineering its way, very slowly but surely, through the streets towards the city front, reached the Sacramento steamer wharf a number of days ago.

Wanted, a Wind and Rain Map of the Coast.

Observing old residents in particular sections are generally well enough informed about the winds and rains, during a portion of the year at least, in the localities in question, to answer for every practical question touching their own individual interests, or others with which circumstances have made them accidentally familiar. But new comers, who are frequently the enterprising persons that are most likely to conceive of new developments, as well as to judge wisely of their chances of success, are in too many cases brought to a standstill by a want of easily accessible data indicative of the climate of particular localities, such as would be presented in a wind and rain map—and the possession of which would immediately transform a matter of unbusiness-like venture, arising from uncertainty as to the climatic conditions, into one of certainty, and consequent likelihood of being carried out.

Not merely agriculture, and the productions of the soil, are affected by these conditions,—constituting a law of probabilities, without a knowledge of which no shrewd business man will take his first step,—but all the manufacturing and commercial interests which follow in the wake of agriculture, are interested in knowing and comprehending the nature and the probabilities of failure in the several fundamental producing pursuits. Especially is this the case in a country so widely differing in its local climatic conditions as are the varied situations, between mountains and valleys, of the Pacific Coast.

All that is needed is the distribution of a lot of rain gauges,—which cost a mere trifle,—and some blank sheets of ruled, or "engineer's paper," to record the observations in graphic form, or in such a manner as to present correct weekly and monthly averages for all the more important points on the coast. A publication of the results, shown comparatively, would be of the greatest pratical value.

It is suggested that the next Legislature would do well to appropriate a small sum for the maintenance of rain gauges, in connection with the State Agricultural Society, or the Academy of Sciences. The reports of a single year would undoubtedly do more good than "horse racing upon the grandest scale."

By reference to the proceedings of the Academy of Sciences, in another column, it will be seen that action is proposed to be taken on the subject by that body.

Our Next Industrial Exhibition, under the auspices of the Mechanics' Institute of this city, will open about Sept. 1st, 1869, and will probably be even a greater success than the last. Circulars have already been sent to China, and will be sent without delay to Australia, and down the western coast countries, giving notice of definite arrangements, and inviting exhibitors. In the circular to China, Mr. Hallidie, the President of the Mechanics' Institute, says:

The railroad across the coutinent connecting us with the eastern shores of our country will be completed in April next, and we will then be brought in communication with the more thickly-populated and older portion of our own and surrounding counties; by this means facilitating the intercourse of nearly 80,000,000 people. San Francisco, by its position, will be the entrepot of the Chinese trade, and a center for exchanges. In view of this, it is believed that the forthcoming Industrial Exhibition will be of material interest to the people of China; and it is suggested that means be adopted by them to be represented here at the Industrial Exhibition at that time. Arrangements will be made with the Pacific Mail Steamship Company for the free transportation of goods intended for exhibition.

A Mastodon at Petaluma.—It is reported that the skeleton of a mastodon was being exhumed near Petaluma last Thursday.

Gas Purification—Lime or Iron.—We have received from the editors of the *American Gas Light Journal*, the report of Prof. Henry Wurtz to the Manhattan Gas Company of New York, upon the comparative merits of the Lime and Iron methods of Gas Purification. The two large gas companies of that city, the New York and Manhattan, respectively employ, the first the "Iron Process," and the last the "Lime Process." It is a very important sanitary question, which of these two has the effect to vitiate in the greatest degree the air of a populous city. Prof. Wurtz found that the odor of sulphuretcd hydrogen, and other persistent stenches familiar to the people of New York, were oppressively perceptible *at some distance* from the "purifying house" of the company using the iron process,—where the fouled iron oxide was spread out for fermentation;—although, *in the immediate vicinity*, they were masked by the more powerful odors,—we may say perfumes,—of ammonia and naphthaline. In the Lime process, on the other hand, as employed by the other company, where the effete lime is revitilated or "revivified" in a supplementary purifier charged with hydrate of lime, the only perceptible odor under the same circumstances is that of *phenol*, or carbolic acid; which is perhaps rather an advantage than otherwise, it being a powerful and valuable disinfectant.

Prof. Wurtz names the various ingredients of the gas which call for removal,—either on account of their effect upon the health of the population, or upon the illuminating value of the gas,—and remarks upon the chemical relations of the most important of them to each of the two processes. He concludes that the tendency of progress is in the direction of a return to the use of lime for gas purification; that the only thing which led to the adoption of the iron process, was the difficulty of getting rid of the fouled lime,—while the iron oxide could be used over and over again; but that the improved mode of deodorizing the lime now places the advantago largely upon the other side.

Quarterly and Monthly Editions.

At the end of each quarter a large number of our weekly issues for the preceding three months are bound up in book form, which, by special arrangement, are placed upon the ferry boats and various steamers leaving San Francisco and other ports on the Pacific Coast, for free reading by the intelligent traveling public. The Quarterlies are also to be found in the principal libraries, depots, hotels, and free reading rooms of the Coast.

This, in addition to our Monthly Series and large weekly circulation, makes the Press the best and cheapest general advertising medium throughout the Pacific Coast. The value of advertising in our columns, however, is best determined by those who have tried it, and we respectfully refer to our patrons in that line. No paper in the United States can boast a better class, and no weekly paper on the Pacific Coast receives as large a sum for regular advertising, or has more constant or long-continued customers.

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Mining & Scientific Press

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A. T. DEWEY. W. B. EWER.

Postmasters are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

Co-Operative Union Store.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v18-aim

Save Your Teeth.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16f

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All around the world are its praises told;
It will Cholera cure—scourge of southern climes,
No victim dies, who takes it betimes.

Keep Pain Killer—a true friend by your side,
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Let it once be tried—"*twill be used again*;
Every word I am telling you, Reader, is true;
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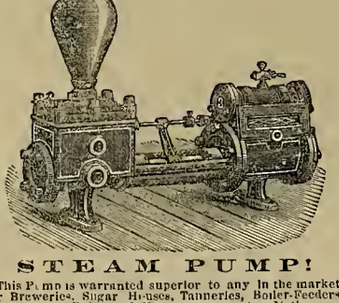

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Warranted a positive Pump under ALL circumstances; it never stops nor gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

If one fails to do the work for which it is sold, it may be returned and the money will be refunded. May be seen in operation at Risdon's, or Union Iron Works, or at

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8v18 3m 114 California street, San Francisco.

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DEWEY & CO.

Continental Life Insurance Company, 203 Montgomery street, corner of Pine.

Returned.—Dr. J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

O. M. Taylor, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office, without fail.

Where to Advertise.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low 10v17tf

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AMBERGRIS.—This valuable substance is found in the intestines of diseased sperm whales. N. E. Atwood, of Provincetown, Mass., writes thus to the *American Naturalist:*

"In 1862, the schooner Estella, of this port, killed a lean sperm whale, from which they took sixty-six pounds of ambergris, which, on the arrival of the vessel, sold for $64 per pound. On another voyage, in the following year, the same schooner captured a whale, from which they took twenty-three pounds nine ounces, which sold for $70 per pound. Last spring a very lean whale was killed by the schooner Watchman in the West Indian seas, from which was taken thirty-eight pounds fifteen ounces of ambergris, which sold for $90 per pound, amounting to $3,504.37. These cases are all that I have found where whalers have been fortunate enough to find ambergris in whales. There is no doubt that they sometimes let carcasses go that contain more value in the intestines than the whole blubber is worth. This substance, accumulating in the intestines, causes a stoppage so that nothing can pass from them; in this condition they cannot live long."

NEW OPERATIONS AT THE BANNER MINE. We are allowed to copy the following from a private letter written by one of the owners of this mine:

The Banner mine, I am told, never looked better; large masses of ore in sight, and the company now talk of putting in ten stamps more, which will increase the number to fifty, which you will perceive is no sardine, although it does not assume that shape now. The amount of rock coming out of the mine at present is more than sufficient to keep even sixty stamps running, much less forty; hence the talk for ten additional. The engine purchased of Booth & Co., of your city, is a splendid affair, and goes far to their credit for engine building. We have four rockers at work on sulphurets, and one buddle, and have contracted for building another. The thing, taking all in all, moves along finely, and in a short time we will be right side up with care.

VIVIPAROUS PERCH—FISH BORN ALIVE. *Harper's Magazine* asserts that the report of viviparous fish in the waters of California, "which, for a time, so seriously disturbed the learned savans of the French Academy," is without foundation. The writer of the article succeeds in proving his ignorance, and that is all. These viviparous fish are abundant, and that they give birth to fish and do not deposit eggs like most fishes, is evident to most persons who have cleaned many of the perches sold in our markets. They have ceased here to be a curiosity. The little perches, previous to birth, are well formed, and when they commence their independent existence they are several inches long.—*Alta.*

METALLURGY IN CALAVERAS.—The new Hagan furnace at Angel's has been running for ten days, and some of the roasted rock has been sent to this city and examined. The sulphur has all been driven off, and, so far as an opinion can be formed from the specimens received here, the success is complete in roasting. The Bentou mills are at work with two Ryerson amalgamators and twenty stamps are crushing for reduction in the ordinary way. The Ryerson process extracts about $25 a ton from the Josephine rock; the amount by the common process we have not heard.—*Alta.*

THE ELLERSHAUSEN IRON PROCESS.—It is said that the Ellershausen process of making wrought iron, recently inveuted and tried on a large scale with success at Pittsburg, will reduce the cost of the metal at least $10, and perhaps $30 per ton. The process is very simple; the molten iron as it runs from the smelting furnace is mixed on a revolving wheel with pulverized ore, and after it cools it will not melt when heated to white heat, but has the qualities of wrought iron, and is ready for the forge.

LARGE SHIPMENT OF CALIFORNIA BRANDY. A part of the cargo of the ship *Escort*, now loading at Vallejo street wharf for New York, is a shipment of three hundred barrels of Calistoga brandy (amounting to twelve thousand gallons), from the Calistoga distillery on Mr. S. Brannan's estate in Napa Valley. On the 16th instant, another lot of one hundred and fifty barrels will be shipped—the product of the same distillery, which is the largest in California.

ACCORDING to Professor Poey, the temperature of the sea always diminishes as we approach land, or shallow water, thus serving as a guide to the navigator when other means of information are not at hand.

PROF. PERREY'S EARTHQUAKE NOTES.—M. Perrey, Professor at Dijon, in France, is considered by many as the best authority on the subject of earthquakes. He has collected a large amount of information on this subject. The foreign consuls of the French Government in every part of the globe have been instructed to furnish him with observations and with the literature of earthquakes, and circulars were sent, through the agents of geographical societies, to all travelers, asking for statistics and information; and thus in the course of a few years M. Perrey has accumulated the record of more than 7,000 earthquakes, which he has tabulated, and upon which he has attempted to found a theory of their origin, which, however, has been stoutly opposed by geologists. It appears from his observations that these convulsions occur more frequently during the winter half of the year than during the summer; that there is a preponderance of shocks at the equinoxes and the summer solstice. A variation in the pressure of the atmosphere is found to have some connection with the phenomenon, as the earthquake action is greatest when the barometer indicates that the weight of the atmosphere is the least, and the pressure variable. The nature of the earthquake shock is that of waves propelled from a central point. These waves are as variable as those of the sea. They are sometimes only an inch or two in hight, and at other times several feet high. Sometimes they cross each other and produce a rotary motion, which is very destructive. The geographical formation of the region disturbed has much to do with the velocity of the earthquake, as through certain strata the shock is propelled faster than in others. On land the velocity of the wave is found to vary from 40 to 140 miles a minute. In the ocean the earthquake wave is found to move at the rate of eight or ten miles a minute.

MAP PRINTING ENCOURAGED.—In Prussia there is a Government map printing establishment, in which the work of publishing the most recent geographical charts is performed at the lowest prices, for the benefit of the public. Not only are the schools supplied with the best maps, but a prize of comparatively easy attainment consists of a world-map, so that by this means the dwellings of the majority of the people may be supplied with these excellent instructors.

THE SOUTHERN HEAVENS.—In the southern heavens there is a region of the sky in which stars of all magnitudes are strewn more richly than in any other portion of the celestial sphere. The general blaze from this portion of the sky,—says Captain Jacob,—is such as to render a person immediately aware of its having risen above the horizon, though he should not be at the time looking at the heavens, by the increase of general illumination of the atmosphere, resembling the effect of the young moon."

SONORA PACIFIC RAILROAD.—Information has been received,—says a Washington correspondent,—that the Texas Convention has passed an ordinance giving the right of way to the International Pacific Railroad, from the eastern to the western border of that State, and a reservation of twenty miles on each side of the road, the road to be completed within six years. This road is one of the connecting links of the international line from Cairo to Altata, on the Gulf of California.

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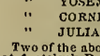
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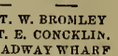
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Reduction of Ores.

MESSRS. EDITORS: As White Pine and adjoining mining districts are now attracting much attention, allow me to say a few words in regard to our mines, and the best method of extracting their minerals. What little knowledge I claim is chiefly of a practical nature, derived from some twenty years' experience in the mines of California and the silver districts of Nevada.

To commence with the Comstock lode, the usual and best known process is to roast the ores in the German reverheratory furnace—a mode of treatment adapted to only a certain class of rich ores, and exceedingly expensive, not only in the original outlay for machinery and furnaces, but also in reduction; in fact, too expensive for ores running lower than from $30 to $40 per ton, the actual cost of working, after being delivered at the mill, being about $30 per ton. In addition to this, the bullion, when obtained by this process, is only about 500 fine, when it should be 900.

The question then arises, how are the lower grades of ores to be worked?

Can the result be attained hy the smelting process? Both science and practice, so far as this coast is concerned, answer in the negative. This mode, as a general rule, has proved a failure. Such has it been in my own experience. Few mines have the requisite amount of galena for a proper flux. The great cost of fuel is often an insurmountable objection. The variety and different combinations of minerals so frequently found render this mode of working in most instances utterly impracticable. In all my experience I do not know of a single case where smelting works have proved remunerative, or even successful, so far as the reduction of the ores was concerned. Whether the Hagan Furnace, though not designed for smelting, recently introduced and not yet fully tested, will prove any more successful, remains to be determined.

It seems to me, therefore, after a survey of the whole ground, that the only feasible plan for cheap and profitable working of the lower grades, as well as of many of the more rebellious higher class ores, is the more general adoption of the pans now used in our mills with some modifications, which I will state hereafter. It is to this source we are to look for rapid strides in the next few years, in the opening of many mines which are now unproductive. A brief account of the introduction of the process, together with some of the advances made in this mode of working, may not be amiss in this connection.

On the discovery of the Comstock lode, it was but in its infancy. The Bartola pan, the first introduced—diameter 30 inches, with a capacity of 50 lbs.—was too small and too slow for any practical use.

The Smith pan, built soon after, 4 feet in diameter, proved to be a decided improvement on the former, but was rather slow for the fast days of Washoe.

The Knox pan, of the same diameter as the last, was the next in order, did its work well, but was objectionable on the ground of slowness and the consequent cost of working.

Next followed the Wheeler pan, diameter also 4 feet, a fast runner, very popular at that time, and making an entire revolution throughout the whole coast from Idaho to Mexico.

About the same time appeared the Varney pan, the Hepburn & Peterson, the Wheeler & Randall, and a number of others of greater or less merit, which for want of space we are compelled to dispatch in a line. The next step in advance was the Wheeler *improved* flat-bottom pan, much better in my opinion than the conical bottom, and destined to supersede all others in use.

It is a fast pan, of five different sizes, working in the largest as much as one ton at a charge in four hours. It is the invention of Mr. J. H. Stewart, a practical miner and mechanic. Having run all the pans in use, and seeing their defects, he was led to get up the one which now bears his name, and which he believes is far superior to any other hitherto introduced. The principal improvement claimed for it consists in a galvanic pan or battery in the pan, generating its own electricity at a cost of only two cents per ton. They are believed to be the best for the White Pine ores, where eight of them have already gone, being best adapted to dry crushing, which mode will save a much larger per cent. of the mineral from this region than the wet.

This pan has a false steam bottom, so that the ore or pulp becomes very hot without getting too wet. The pulp is worked thick. When chemicals are to be employed, which can only be determined by experiment, some kind of an alkali, such as cyanuret of potassa, with a little sal ammoniac, is the best in my experience, and to be used with caution. The White Pine ores are generally easily worked, seldom requiring chemicals of any kind.

Any information in regard to these pans, or the new galvanic process, can be had by addressing Mr. J. H. Stewart, care of the Miners' Foundry, San Francisco, or calling upon him at the office of the same.

PRACTICAL MINER.

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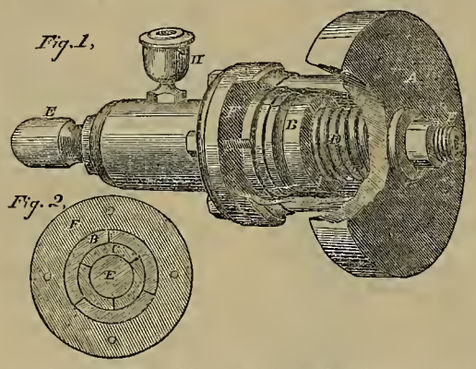

This invention relates to the packing used to render piston rods or propeller shafts steam and water tight, and has for its object the construction of a metallic packing, which shall be operated upon by gas, the vapor or liquid exerting the pressure, in such a manner as to form a perfectly tight joint. It also consists in so forming the gland of the stuffing box, that it shall serve as a support and guide for the rod and shaft, and at the same time afford great facility for lubrication.

Two small openings now connect the interior of the cage with the source of pressure—as the cylinder in an engine or pump, or the water outside of the ship if it is for a propeller shaft—so that the greater the pressure the closer are the rings forced against the rod and inner face of the gland. In any case the Packing is to be applied to a water or air pump, so that the pressure will come from the liquid or the gaseous substance, as the case may be. One of the most important uses of this Packing is in the stuffing boxes of propeller shafts, in which case the openings connect with the outside water, the pressure on the rings depending upon the depth to which the shaft is submerged. This device is simple, and not easily got out of repair; is perfectly efficacious and self-regulating, and in the case of shafts, especially, will do away with the great expense of repairing the derangements of the stuffing box which now so frequently occur. This new invention has already been adopted on the Central Pacific Railroad and by some of the principal Flouring Mills in San Francisco and Sacramento, and is growing at once into popular favor. A description of the engraving accompanying this will be found in the *Mining and Scientific Press* Jan. 9, 1869, and in the patentees' circular, which can be had free on application.

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KEEPING MINERS UNDER LOCK AND KEY. A Virginia City telegram says:

The miners in the Imperial shaft at Gold are still kept under lock and key, and nothing concerning recent developments in the mine has been made public.

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FROM IDAHO.—Our correspondent from Boiso City, under date of February 4th, writes:

The Monarch Company, Mr. Atkins, Superintendent, at Yuba, Alturas County, I. T., have just cleaned up their first run of six tons of Atlanta ore, and have as the result, 1,200 pounds of dry amalgam, of about $500 to the ton,—as it is silver, with a small percentage of gold only.

The Leonora I wrote about before; it produced $6,060, valuing which at $13.50 per ounce, the assaying rate, from 130 tons; only about half the gold and no silver being saved.

We do not want any White Pine for either Owyhee or Alturas counties, both of which are superior to White Pine in many respects. Water is free,—instead of twenty-five cents a gallon,—and in Alturas lumber is $60 a thousand, and enough for a century; provisions plenty and cheap; flour, $15 per cwt., etc. The good time for Alturas County is coming, and capitalists can see for themselves, for all we want in Yuba is capital. OBSERVER.

HAWAII, THE ISLAND OF THE GREAT VOLCANO, SINKING.—During recent earthquakes it is asserted that Hawaii, the largest island of the Sandwich group, embracing 4,000 square miles, settled upon its foundation a few feet on the southern and western shores, a few inches only on the east and north, but enough to cover the old tide-marks, and to overflow the vegetation of the more level beaches. The island is entirely volcanic, and was formerly at least partially under the ocean—a fact established by the marine shells distributed over its surface, at considerable altitudes. Accurate and reliable data with regard to the present alleged submergence have not yet reached us.

NEVADA CITY FOUNDRY.—Under the active supervision of the energetic proprietor, John McCone, the Nevada Foundry, Silver City, continues daily to turn out an immense amount of work. The number of workmen at present employed is 105, and the average amount of castings turned out per day is 14,000 pounds. They have just cast a mortar for the Bay State Mill, which weighs 4,500 pounds, showing that they are prepared to do heavy as well as light work. They are getting up a large amount of White Pine machinery, also a great number of pan bottoms of a new style for use everywhere. The foundry presents a scene of the greatest activity in every department during working hours. It is one of the most important and successful institutions in the State.—*Gazette.*

THE CHILEAN EXHIBITION IN APRIL.—According to late intelligence from the South American coast, it appears a considerable number of manufacturers and agriculturalists in England, France and the United States, are preparing to forward articles to the exhibition.

GOVERNMENT SALE OF GOLD.—In accordance with instructions received by the Assistant U. S. Treasurer in this city, $1,000,000 in gold coin will be sold for currency in lots of $250,000 each, the first lot being offered on the 23d instant. The sale of this money will retain between $7,000,000 and $8,000,000 on this coast, which amount has heretofore been shipped East yearly.

IMPROVED INNER SOLES
—FOR—
BOOTS AND SHOES.

Those who have worn Daggett's Patent Elastic Ventilating Inner Soles, are unanimous in testimony that the correct principle has been hit upon and reduced to practical and successful use. The foot rests upon a cushion of air cells between points of vulcanized rubber, every cell opening freely into each other and through the space occupied by the foot. There is no contact of the foot with the wet bottom of the boot. The elastic points sustain the weight of the wearer, leaving an air space always, between the foot and all dampness. Every step compresses and restores the air chambers, thus constituting hundreds of air pumps, working at every step of the foot.

The rubber points will not absorb the moisture from the boot, so that the soft flannel which covers them is always dry. Their springing elasticity renders them of peculiar value to the aged and infirm, who feel the jar of walking upon hard substances, also to all persons whose business requires much walking or standing.

These soles are affording great relief to persons afflicted with rheumatism and consumptive complaints, chilblains, corns, cold and sweaty feet.

For warm and dry feet use the Patent Elastic Ventilating Inner Soles.

No. 15 Exchange Street, Boston, Oct. 15, 1867:—This may certify that I have used the Patent Elastic Ventilating Inner Soles, through the spring and summer past, and have found them to be the best contrivance for keeping the feet dry and comfortable, that I have ever used, and for any one having corns or tender feet, the best article ever invented. CHARLES K. DARLING, Stationer.

Patent Elastic Ventilating Soles—If you wish a comfortable article for your feet, a real luxury in cold weather, obtain a pair of the Patent Elastic Ventilating Inner Soles. Having used these soles the past winter, we can safely recommend them as tending not only to promote the comfort of the feet, and ease in walking, but also the equalization of the temperature of the feet, which renders them almost invaluable.—[Boston Traveler, Oct. 1867.

Price, per pair, $1. By mail, postage paid, $1.25. For sale by PATRICK KELLY, No. 327 Bush street, San Francisco. 3v15tf

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Read and Subscribe.

With the advantages of past experience, the increased patronage and friendly support of the intelligent and progressive readers of the Pacific States and Territories, we are confident in asserting that the new volume of the MINING AND SCIENTIFIC PRESS, commencing with 1869, shall be in all respects superior to its predecessors. Of the past, we will give the written

OPINION OF OTHERS:

EVERY miner in the community should subscribe for the Mining and Scientific Press.—*Grass Valley Union.*

MINING AND SCIENTIFIC PRESS.—This excellent scientific journal has entered upon its eighteenth volume.—*Chico Courant, Jan. 15th.*

THE *Mining and Scientific Press* should have an extensive circulation in every mining community on the Coast.—*Placer Herald, Dec. 19.*

W. FRANK STEWART is Dewey & Co's accredited agent for the Patent business in this city, and will attend to their affairs in that specialty.—*San Jose Mercury.*

MINING AND SCIENTIFIC PRESS.—This journal is devoted to mining and scientific researches, and has been conducted with great ability. It has been greatly enlarged and improved.—*San Jose Patriot.*

THE MINING AND SCIENTIFIC PRESS has become almost indispensable to the miner and machinist, and is well deserving of the patronage which we are pleased to learn it receives.—*Mariposa Mail, Jan. 16th.*

TO ALL we may wish to obtain a thorough knowledge of the industrial resources of the Pacific Coast, the PRESS will be found a valuable paper.—*Oakland Trans script.*

THE PRESS is a credit to the State, and is fast gaining in popularity. It commends itself to all classes, and we hope many in this section will become subscribers.—*Pajaronian.*

THESE gentlemen not only print a first-class scientific and mining journal, but are also trustworthy Patent Agents, and doing much towards the inventive business of this coast.—*San Jose Mercury.*

THE *Mining and Scientific Press* is one of the best papers of the kind ever published, and to California miners, especially, it has become an almost indispensable requisite for the successful prosecution of their calling.—*Nevada Gazette,*

NEW VOLUME.—The MINING AND SCIENTIFIC PRESS has entered upon another year's work looking improved and promising. This paper is devoted to the interests of the scientific world, and to the miner and mechanic is almost invaluable.—*Gilroy Advocate.*

THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

THE MINING AND SCIENTIFIC PRESS commenced a new volume with the new year. It is a credit to the State, and to the mechanic or miner, is a great source of valuable information. It has every appearance of prosperity, and we hope it may continue growing in wealth and influence.—*Pajaronian.*

TO MINERS.—William H. Murray, traveling agent for the Mining and Scientific Press, published by Dewey & Co., of San Francisco, is in town soliciting subscriptions for that paper. To the intelligent miner, a paper like the *Press* is particularly valuable, keeping him posted on the latest discoveries in reduction of ores, new machinery, etc.—*Grass Valley National.*

WE CONSIDER THE MINING AND SCIENTIFIC PRESS the most valuable mining and mechanical newspaper issued in the United States. Dewey & Co., publishers, are also solicitors of foreign and American patents and conduct patent cases of every kind. We guarantee that all business confided to them will be carefully attended to, and we further believe that every miner, mechanic, and scientific man should have their valuable paper.—*Auburn Stars and Stripes.*

A VALUABLE PAPER.—For many years after the American settlement on this coast, a journal devoted entirely to mining and scientific interests did not exist. Vast sums of money were expended, or rather squandered, by capitalists and others, for lack of proper practical and scientific information about the mines and their developments. This necessity has been fully met by the MINING AND SCIENTIFIC PRESS, published by Dewey & Co., at No. 414 Clay street, San Francisco.—*San Jose Mercury.*

MINING AND SCIENTIFIC PRESS.—We look upon this paper as one of our most valuable exchanges, in fact it deservedly stands at the head of all publications embracing mining, scientific and mechanical subjects, and contains much miscellaneous matter of interest, and is a gem of neatness. The PRESS is published by Dewey & Co., San Francisco, and at its present low price of five dollars per annum, should be patronized by every one, but more especially by miners, mechanics and inventors who wish to pursue their avocations with intelligence and economy.—*Tidal Wave, Idaho.*

A USEFUL PUBLICATION.—The MINING AND SCIENTIFIC PRESS, published at San Francisco by Dewey & Co., is a publication valuable to all classes and indispensable to miners and inventors—the patents for nearly all California inventions having been secured through the Patent Agency of the proprietors of that paper, and the inventions themselves brought into notice through its columns. We are glad to learn, from Mr. Wm. H. Murray, the traveling agent of the paper, who dropped in upon us Monday evening, that its merits are so well appreciated; and we unhesitatingly commend both the paper and its gentlemanly agent to the confidence and patronage of scientific and practical men of all classes and every occupation.—*Solano Herald.*

SUBSCRIPTION TERMS, in advance, $5; six months, $3. Specimen Nos. of the paper and Circulars of Information for Inventors, sent free on application.

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Publishers, Patent Agents and Job Printers, No. 414 Clay st., below Sansome, San Francisco.

A. T. DEWEY. W. B. EWEN.

SULPHURETS;

What they are;
How Assayed;
How Concentrated;
And How Worked;

With a Chapter on the

BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

For sale at this Office.—Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 2lyr15tf

New Mining Advertisements.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
F C McComb	59	12½	$25 00
E C McComb	81	28½	56 25
Martin White	5	15¼	30 00
H W Hall	45	25	50 00
John R Mead	49	25	50 00
J H Pearson	64	2½	5 00
Wesley Hendersont	67	100	200 00
Albinus Ingle	71	5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on Monday, the eighth day of March, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. feb20

Golden Rule Mining Company, Tuolumne County, California.—Regular Bi-monthly dividend (No. 18) of the Golden Rule Mining Company, of Tuolumne County, Cal., of 2½ per cent. per month, or fifty cents per share, is now declared, and will be paid to the Stockholders on and after the 26th inst. Office, 432 Montgomery street, Room No. 5.

J. B. RUSSELL, Secretary.

W. T. BOSWORTH, President.
A. S. PIERCE, Superintendent of Mine. feb20

North American Wood Preserving Company.
Location of Works: San Francisco, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John L Samuels	....not issued	800	$800 00
George W Dent	1	400	400 00
Henry S Dent	....not issued	200	200 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 430 Montgomery street, San Francisco, Cal., on Monday, the eighth day of March, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. B. LAKE, Secretary.

Office, 430 Montgomery street, San Francisco. feb20

Star Creek Mining Company.—Location: Star District, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of February, 1869, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-third day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twelfth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

feb20 HORACE MORRISON, Secretary.

Mining Notices--Continued.

Chloride Mountain Tunnel and Mining Company.—Location of Works: White Pine Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of February, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 615 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the tenth day of April, 1869, to pay the delinquent assesment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JAMES RICE, Secretary.

Office, No. 615 Kearny street, San Francisco. feb13

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of January, 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the seventeenth day of March,. 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. jan30

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of January, 1869, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 426 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth (5th) day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirtieth (30th) day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees

R. N VAN BRUNT, Secretary.

Office 426 Montgomery street, San Francisco. jan30

BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's bill on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

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VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

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Patent Rights for Sale.

For Preserving Timber from Decay

The cheapest method for curing Wood.

A. HAMAR'S PATENT.

WOOD PAVEMENT,

MILLER'S PATENT.

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India Rubber Cement and Paint

—FOR—

TIN, IRON AND METALLIC ROOFS,

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AND FOR ALL EXPOSED SURFACES,

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

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MACHINES OF ALL SIZES FOR SALE

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Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

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Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

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1v1-4qr

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M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

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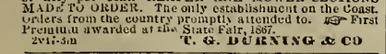

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Pipe Vise, with or without Extra Jaw.

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23v16-1y G. H. NOTT, Pres.

PATENT
Boiler Scraper and Tube-Cleaner.

IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

S. F. & S. J. R. R.

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We have been shown by Wm. Zelner, the best and most convenient and portable apparatus containing Chlorine, for rooms, which we consider the best disinfectant out, and should advise all housekeepers not to be without one. Price $1, complete; to be had, with full directions, at WM. ZELNER'S German Drug Store, 18 Geary street, 23v17-3m

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SEAL ENGRAVER,

AND LETTER CUTTER,

Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.

6v16

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Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

Novelty and Usefulness Combined.

Wilson's Prepared Solder

Dispenses with the Soldering Iron.

It will save you both time and labor. One bottle of this Solder will mend all the time you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire.

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Address P. O. box 17. 23v17tf

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WORCESTERSHIRE SAUCE

Declared by connoisseurs to be the only

GOOD SAUCE.

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and see that their names are upon the wrapper, labels, stopper, and bottle.

Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L. and P. give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.

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Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.

Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CROSS & CO., San Francisco. 3v18-1y

Our Patent Agency.

The Patent Agency of the Mining and Scientific Press has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of Letters Patent from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

The First Locomotive.—Pen-y-darran, Wales, is chiefly remarkable for its connection with the first tramway,—for which an act of Parliament was obtained in 1803 for the first locomotive ever tried,—and with the able inventor Trevethick. who there made his first essay. The first run of the locomotive occurred in February, 1804. Previously there had been a whisper in the scientific world of the use of steam and of its employment in propelling vehicles, and abortive attempts having been frequent. Samuel Homfray by some means was brought into connection with Trevethick, and the result was that this able but eccentric man visited Merthyr, and in conjunction with a self-taught mechanic, one Rees Jones, whose homely portrait can be seen in the Kensington Museum, began to build his locomotive. Building is not an inappropriate word in this case, for the stack was actually built up of bricks the same as an ordinary chimney, and the whole affair was peculiarly odd. The stack was tall and clumsy, the body dwarfed, perched on a high framework, so as to approximate to the spider fashion; the cylinder, in addition, was upright; the piston worked downwards, and at every revolution of the wheels there was a monstrous clang produced, which, heard nowadays with the asthmatic puffs of steam, would provoke the gravest mechanician to laughter. When completed Homfray introduced his friend Richard Crawshay to the novelty, doubtless much to that individual's amusement, certainly to his incredulity as to its being fit for anything, for he readily accepted a wager with Homfray for £1,000, maintaining that it would not convey a load of iron from Pen-y-darran to the Navigation—a distance of nine miles. The eventful day arrived for the trial, and never had there been so much excitement. The sturdy Englishmen were there, and natives from every Welsh county lined the road, and mounted every eminence that commanded the tramway; and when Trevethick jumped on his iron steed, and began slowly to move onwards amidst clanging iron and puffing steam, the uproar was terrific. By the arrangements made no one was allowed to assist the dauntless Cornishman, and for a time he did not seem to want it. Surrounded by a host, he passed down the valley making about five miles per hour, when a sad misfortune happened,—the clumsy stack came in contact with a bridge and was ruined! Trevethick stood for a moment amongst his bricks, but only a moment. Fertile in resources, he was soon steaming onward again, and not only conveyed his load of iron to the Navigation, but a crowd of exultant passengers along with it, who to their latest day prided themselves on their glorious ride. It was fortunate for Homfray that the wager was a loose one. The iron was taken down and the bet won; but Trevethick failed to bring his empty trains back, and for some time the feasibility of the new invention as a mode of transport remained in abeyance.—*The Engineer.*

An Immense Gravel Mining Enterprise.—Many of our readers are aware that there is a large range of rich ground some three miles in length and from one to one and a half miles wide, extending from Badger Hill in Bridgeport township, to Columbia Hill in Bloomfield township. This ground has been worked, but the bottom has never been reached. The lead was struck at Badger Hill a year or two ago, and $30,000 taken out in a few weeks; but the Columbia Hill bottom has never been reached. The gravel pays from the very surface, and millions of dollars have been taken out by the Shady Creek outlet. A project is now on foot, backed by abundance of capital, to get an outlet for the extensive range from the Middle Yuba. The parties undertaking this work are Mills, McMurray, Cook, and Hunter. They propose to commence one hundred feet from the river, and run a bedrock tunnel 1,900 feet to Badger Hill. By this tunnel they will be able to clean up to the bottom for three miles, and to wash off one of the richest ranges on the coast. It is estimated that the enterprise will cost in the neighborhood of $80,000, and it is certainly one of the best enterprises in the State. We had rather have this than the Eberhardt mine to-day.—*Nevada Transcript, Feb. 11th.*

National Bureau of Statistics.—Gen. Francis A. Walker, for some time connected with the editorial department of the Springfield (Mass.) *Republican*, is to take charge of the statistical work of the Revenue Department under Mr. Wells. He is said to possess qualities of industry, intelligence, and knowledge of finance that will make his services of great value there. Delmar retires. Conducted by a thinker, the bureau of statistics must prove of very great national value.

COMMENCING OPERATIONS ON A VEIN.—J. S. Phillips writes as follows on this subject, in a communication to the *U. S. Railroad and Mining Register* of Philadelphia:

The first and most important duty of the qualified expert is to make a most careful examination of the vein, by every means within his power, such as indicative matrices, position in stratum, surrounding junctions of other strata therewith, and to assay a well assorted average of the ledge for its value; secondly to these, the natural facilities for development of mine and shipment of produce—as water power, fire wood, easy access, cheap labor, etc., must be considered; and lastly, the best methods for reduction of the ores into marketable condition. If, after due consideration of all the necessary facts, the property is deemed worthy of trial, a further examination should be made, by a few shallow pits, to ascertain where the lode is most enticing in appearance for value, and a shaft sunk therein, first by hand tackle, then by horse or steam power, as deep as may be deemed requisite for a fair trial: in the meantime it will be expedient to explore the ledge linearly by a drainage tunnel, which will expose the value of the vein, drain the water away at this depth, and greatly assist the general development and ventilation of the works.

LARGEST ROLLS IN THE WORLD.—There was recently cast at the Phœnix Foundry, Bilston, England, a pair of iron rolls for Sir John Brown's works at Sheffield, said to be the largest rolls in the world. These rolls are fifteen feet six inches in extreme length and three feet in diameter, and each weighs eighteen tons. They are to be used for rolling armor-plates.

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A WARNING
TO ALL WHO ARE AFFLICTED.
Before the rainy season comes get cured of Rheumatism and Neuralgia, by herbs only. The receipt was given some years ago by an old Indian in New Orleans, and it has never failed to cure all it says. Many have been cured in this city and in Boston, and all say it is the best they have tried. Manufactured by MRS. MARY HIGGINS, Oregon street, two doors west of Drumm. Orders sent by mail or express attended to on receipt of $5 per bottle. 22v17-3m

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An experienced Draughtsman and Teacher, has opened an Evening School at No. 411 CLAY STREET (same entrance as the Mining and Scientific Press Office), where he is giving thorough instructions in DRAWING to apprentices who are inclined to self-improvement. His terms are moderate and within reach of the humblest apprentice; and we are pleased to say that the enterprise is meeting with success.
1v18-tf

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This useful little article is the GREATEST INVENTION of the age for the benefit of smokers, reducing the cost of Cigars and Cigarettes to the mere cost of the Tobacco. Very convenient to carry in the Pocket, producing no smell, and adapted to the use of any tobacco. In two sizes and three styles—Japanned, Brass, and Silver-plated. Sample machines, with 100 wrappers, sent free of postage on receipt of $2. The highest prize awarded at the Fair of the American Institute, September and October, 1867. For particulars, address H. C. WITT, 57 Cedar street, New York.
Beware of infringements. All genuine have my name printed on the bands.
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ROOT'S PATENT FORCE BLAST ROTARY BLOWER.
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.
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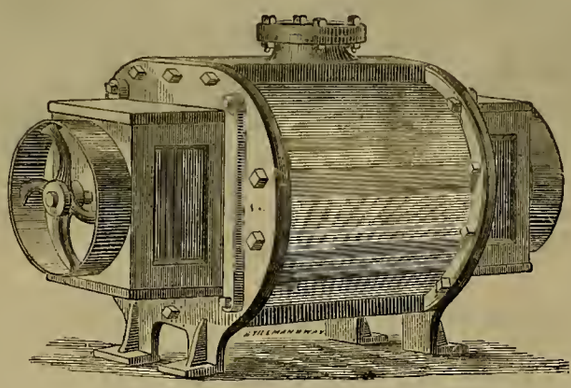
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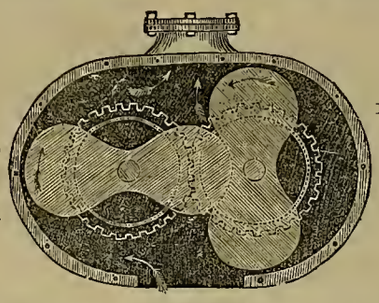
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One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.
CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.
For circulars and further information, address
KEEP & BARGION,
4v16 3m Globe Iron Works, Stockton, Cal.

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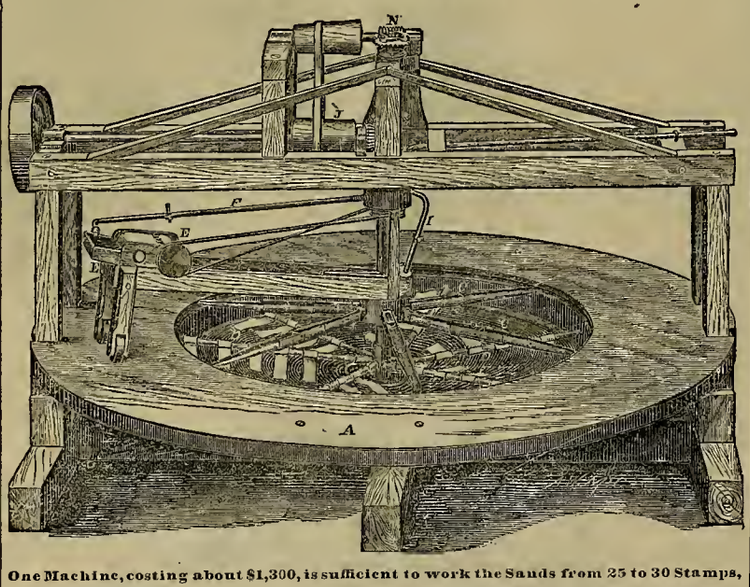
IMPROVED CONCENTRATOR,
For Saving Gold and Silver Sulphurets.

One Machine, costing about $1,300, is sufficient to work the Sands from 25 to 30 Stamps,
Less power being required than for any other Machine. The attention of quartz millmen throughout the State is directed to the subjoined certificates, and if they desire they can visit the Amador Mining Co's mill, near Sutter Creek, the Eureka Co's mill at Grass Valley, or the Banner Co's mill near Nevada, and see for themselves.
CERTIFCATES:
GRASS VALLEY, Jan. 4th, 1869.—This is to certify, that we have used the Paine, Stephens & Harry Concentrators for over twelve months. They have given us entire satisfaction, and are the best we ever used. WILLIAM WATT, Supt. Eureka Mine.
This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.
WM. L. TISDALE, Supt. Star Spangled Banner Mine.
NEVADA CITY, Oct. 26, 1868.
Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE, at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.
13v1Coow

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All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

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VENTILATION ALARM FOR THEATERS AND CHURCHES.—Plants take up carbonic acid, and give off oxygen, while the animal creation reverses the process; taking up oxygen and giving off carbonic acid, which is poisonous when the air contains more than three or four per cent. of the gas, destroying life, putting out candles, etc. The product of burning wood or coal is carbonic oxide CO and carbonic acid CO ; these are the operating agents in the French lover's suicide. When derived from exhalations of the lungs, in apartments having cracks, or doors that are occasionally opened, there is seldom closeness enough to reach the absolutely poisonous percentage, though it may be the predisposing cause for coughs, colds, consumption, etc.

An apparatus for giving an alarm in case of the presence of carbonic oxide or coal gas in a room, has recently been invented by a Prussian; and if a similar reaction could be brought into operation to show the existence of an injurious percentage of carbonic acid gas in churches and theaters, the community might be freed of many ailments, which are not often enough connected with the true cause. The apparatus in question consists of a galvanic battery with a bell and a glass tube filled with liquid chloride of palladium. This metallic salt is extremely sensitive to the pressure of carbonic oxide gas. A small quantity of the gas will at once throw down some of the metal from the solution, and this precipitate collecting in the bottom of the tube, at once establishes a connection in the current of electricity, and the violent ringing of the bell will warn the sleeper of danger.

At a recent meeting of the New York Board of Health, Engineer Mathews asked for an appropriation of $50 to purchase apparatus for the purpose of analyzing the air in theaters, public schools, and churches. The apparatus is simply a silk bag of large dimensions, which is suspended from the roof. After the bag is inflated it is closed like a balloon and its contents analyzed.

WILLAMETTE UNIVERSITY.—This institution located at Salem, Oregon, has become one of the most important, at present, amongst our young and flourishing seats of learning on the Pacific Coast. It is a university in fact, having its several departments well attended to by full corps of able professors. From the Professor of Chemistry,—the well known mineralogist Dr. Veatch,—we obtain the following complete list of professors in the Medical Department:

H. Carpenter, M. D., Professor of Surgery.
D. Payton, M. D., Professor of Physiology and Hygiene.
E. R. Fiske, M. D., Professor of Pathology and Practice of Medicine.
J. Boswell, M. D., Professor of Obstetrics and Diseases of Women and Children.
M. B. Lingo, M. D., Professor of Anatomy.
J. A. Veatch, M. D., Professor of Materia Medica and Toxicology.
Prof. J. H. Mitchell, Professor of Medical Jurisprudence, Portland.

Lectures commence on the 4th of November, annually, and continue four months—six lectures daily.

MORTARS, pestles, and other human relics have been found in connection with the bones of the mastodon, by John Dane, in a gravel mine belonging to him at Grass Valley ranch, Amador County.

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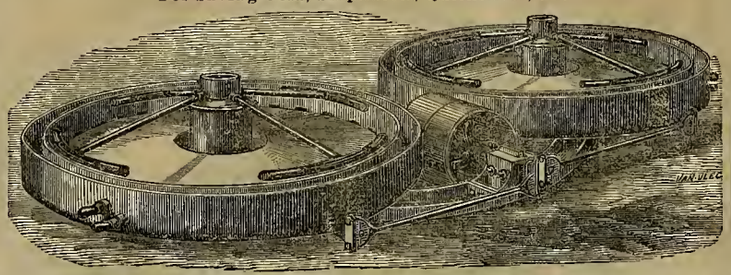
For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir*:—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868

MR. MORGAN HUNGERFORD—*Dear Sir*:—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

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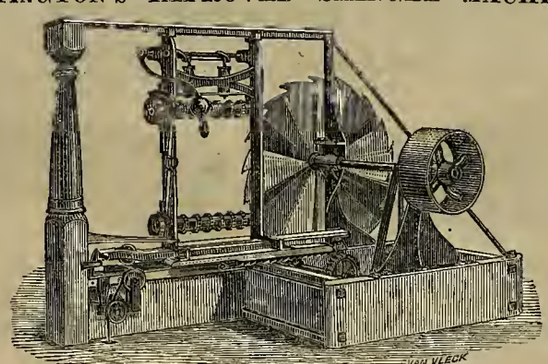

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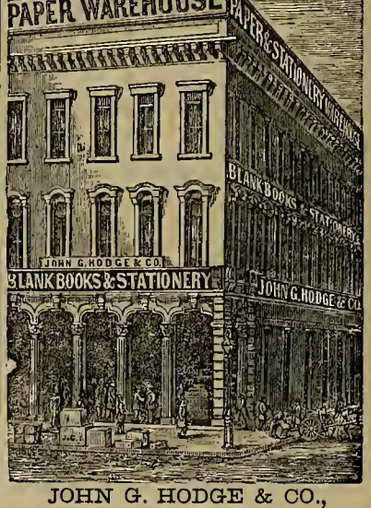

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For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

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The Standish Steam Plow.

We present herewith a side view of the newly-invented and already well tried Standish steam plow, from which a good idea can be obtained of the appearance and method of operation of that machine.

The invention, in brief, is an improved locomotive steam plow, so constructed that the power is transmitted directly from the engine to the plows or cutters, thereby greatly lessening the power ordinarily required for traction. It also consists in a novel mode of operating the plows, by which the earth is plowed transversely to the travel of the machine, and is thoroughly broken up and pulverized, so as not to need any further cultivation, the seeding being also done at the same time.

The plows are attached to a movable supplementary frame, which, by the proper mechanism, may be easily raised and lowered to regulate the depth of the cut, or they may be elevated so as to entirely clear the ground when necessary, while by a simple device the cutters are so mounted as not to be broken by stones or other obstructions.

To more fully explain the invention, reference may be had to the accompanying engraving and letters marked thereon. A very strong frame of wood supports the machinery and is mounted upon two broad wheels, B, B'. The front of the machine is supported by two guiding wheels, C, C, turning on an axle, which passes through a vertical standard, D, with a device at the point of its support on the axle, by which the wheels, C, C, are allowed to accommodate themselves to any irregularities of the surface. A gear wheel, E, is keyed to the top of the standard, D, and is turned to the right or left by a screw, F, working in its teeth, and operated from the platform, G, by a long rod and a wheel or crank attached. The engines, I, I, and boiler, are supported upon the frame and suitably stayed, so as to be firm. An upright tubular boiler is preferred, in order to accommodate the machine to declivities, without danger by a change in the water level, as would be the case in a horizontal boiler, and also to economize room. A pair of horizontal engines, as shown, will give the requisite power, and will be much more steady in their action than would be possible if they were vertical. The plows or cutters are driven by the beveled wheel, U, on the shaft, K, also thrown in and out of gear by a clutch, as shown, and which, by engaging the wheel, V, turns the shaft, W, and through this the beveled gear, X, at the other end, by which means the plows or cutters may be revolved. The cutters are mounted upon a supplementary frame, h, h, which has the arms extending forward to a point at the sides of the frame, where they are pivoted so as to be movable about an axis in a line with the engine-shaft. The driving gear, x, is keyed to a horizontal shaft, and by means of the beveled gears, g, g, drives the vertical shafts, h, h, which operate the cutters or plows. A disk, i, is keyed to the bottom of the cutter shaft or spindle, b, and has the arms, k, k, projecting from it, radiating from the center. These arms are bent at right angles at the outer ends so as to form supports for the axes of

THE STANDISH STEAM PLOW.

the hubs, m, m, to which the cutters are attached. The cutters, n, n, pass vertically through the hubs, and when not fastened, can turn with them about their axes. For use in soil that contains but few stones, the cutters are retained in position by light supporters; r, r, which may be made of cast iron. The supporters are bolted to the arms, k, k, and each have a slot made in the projecting end which clasps the head of the cutter, and holds it rigidly in place under the ordinary strain of plowing; but if the cutters strike a stone or other obstruction, one of the projecting lugs or sides will be broken off; so that the hub can revolve, the cutter being swept backwards until the obstruction is cleared, when a new supporter can be attached. As these castings cost but a few cents, and are easily replaced, they will serve as an efficient protection to the cutters. But if the soil be very stony or full of obstructions, the cutters may be kept in position by a stiff spring which is attached to the arm, k, and curved around so as to clasp the cutter below the hub. This spring is sufficiently stiff to withstand the ordinary strain of plowing, but will yield to any great obstruction, so as to allow the cutters to pass over it. The cutters may be either straight or curved, as may be the most efficient. They are elevated or depressed by various devices, one of which is shown at *l*, being a screw operated by a wheel from the platform, G. Any approved seed sower may be attached to this apparatus as shown at u, having distributing pipes, V, so that the grain may be sown, and then plowed and harrowed in. A roller, or a series of broad wheels, J, are attached to the frame, b, so as to run on the ground just in front of the cutters, thus regulating the depth of the cut, and preventing them from being thrown out by inequalities in the surface.

The following is quoted from the circular of the "California Steam Plow Company," as the best account we can give of the aims and intentions of the inventor and manufacturers, in presenting to the agriculturists of California a practical method of applying steam to farming:

"The Standish Steam Plow has at last arrived at such degree of perfection that we can now safely offer it for sale to the farmer and others who wish to engage in steam cultivation. After repeated tests, and the most severe trials for two seasons of plowing, we can now answer the often-asked questions, What can the Steam Plow do? What does it cost? Will it pay? etc. This principle of plowing is entirely different from any ever yet invented, and combines the harrowing and plowing in one and the same operation. It most effectually pulverizes and mixes up the soil to any required depth, from two to twelve inches, cutting up and destroying all grass and roots, and thoroughly incorporating and combining the surface dirt with that underneath, leaving the soil in a light, mellow condition from top to bottom, at the same time electrifying and aerating it by means of astonishingly rapid motion. This is no digger, or spader, or revolving cylinder, or paddle-wheel propeller, or scratcher,—devices tried and condemned years ago. The principle is that of horizontal cutters working on a vertical axis, having been invented and wrought out by the necessities of this age of progress.

What has the plow done? It has plowed hundreds of acres of land from which splendid crops are growing, that promise an increased yield such as will more than pay the expense of plowing; it has plowed at the rate of three acres per hour, at a cost of from seventy-five cents to one dollar an acre. It consumes from forty to one hundred pounds of coal per acre, or its equivalent in other fuel. It uses up from eight to fourteen cubic feet of water per acre. One hundred and eight pounds of cast steel cutters will plow 1,000 acres, which, at thirty cents per pound, is equal to 3½ cents per acre; cost of sharpening, ten cents per acre on an average. The locomotive requires an engineer, a steersman, and a man with team to supply fuel and water. This estimate is made upon a depth of five and six inch plowing, and with a plow cutting to the width of twelve feet. An increased depth will proportionately increase the expense. The locomotive admits of a graduated speed to suit the various conditions of soil and kinds of work required; advancing from 150 to 350 feet per minute when plowing, and seeding the land at the same time, if desirable. This principle of plowing does not drag or retard the propelling power of the machine, but rather assists it, and crowds forward, thereby preventing the tendency of the locomotive to settle down in soft soil. The driving wheels are broad and of large diameter, being six feet diameter on the small plows, and ten on the large ones, and covered with a soft spongy wood, affording at the same time elasticity and great adhesion to the ground. This method is very successful, answering the purpose of india rubber, and being extremely economical, as they require covering but once in a season. Two-inch plank or scantling in the rough state is preferred, cut the requisite length and spiked on the main tread. We use Oregon spruce and fir; bass-wood or peppsrage wood answers admirably. The main weight is carried upon the two rear driving wheels, and the power is applied as near the periphery as possible, the forward wheels serving as guide wheels, and but a small part of the weight of the locomotive resting upon it.

Our machine will ascend quite steep grades, say one in four, and performs wonders on the common road in the way of hauling loaded wagons, gang plows, etc., although not expressly built for that purpose; as a steam-power to drive threshing machines, saw wood, pump water, run grinding mills, haul grain, and general service on the farm, they are not to be excelled. They can be sold at the following rates:

4½ feet cut, 10-horse power, plowing capacity from ¾ to 1½ acres per hour, for $2,800.

6 feet cut, 15-horse power, plowing capacity from 1 to 2 acres per hour, for $3,500.

8 feet cut, 20-horse power, plowing capacity 1½ to 2½ acres per hour, for $4,400.

10 feet cut, 30-horse power, plowing capacity from 2 to 3¼ acres per hour, for $5,900.

12 feet cut, 35-horse power, plowing capacity from 2½ to 3¾ acres per hour, for $7,500.

16½ feet cut, 60-horse power, plowing capacity from 3 to 5 acres per hour, for $12,000.

Weight, about 400 pounds to each horse power.

This plow drew the gold medal for the best California invention at the Mechanics' Institute Fair of 1868; also a diploma and prize of $300 at the California State Fair of 1868. It is patented in Europe, and the patents for France, England and Russia are now offered for sale; also the right for use and manufacture in the United States, excluding the Pacific Coast.

For further information, address Mr. P. H. Standish, San Francisco, Cal.

COOKING "LABORATORY."—Professor Blot, the scientific Frenchman whose lectures on cooking attracted attention a few years ago, is about to establish in New York a laboratory for the preparation of soups and meats, preserved in hermetically sealed cans intended to bear transport and storage. He has been for nearly a year engaged at the Rumford Laboratory in Boston in similar business.

Facts and Science of Silver Ore Deposits.

The naturs of ore deposits is of itself a science; bnt neither chemical geology nor the valuable generalizations which have been made from a systematic comparison of the important ore deposits of the mining world, have proved sufficient to furnish the prospector with an infallible rule, which is not likely to appear false in some new locality, by reason of altered conditions. Ample information with regard to occnrrences in like formations, in the hands of persons intelligent enough not to go to extremes in their deductions from only locally correct theories, is the safest, and in general the only guide. It is for this reason that laboring miners, even the most ignorant, are frequently the best judges of the value of a vein or deposit not yet explored; at the same time that to be guided implicitly by their verdict in a new situation, perhaps deduced from trifling or irrelevant circumstances, would frequently be as ridiculous as following the witch hazel.

THEORIES AND FACTS.

A well informed mining geologist is slow in "running to theory," on the subject of the probable yield of any given deposit, but is always able to furnish valuable information bearing unequivocally upon the probabilities in the case; furnishing, therefore, the necessary data for action in the premises.

The following instances, quoted from the *Times*, are illustrative of the liability to error of theorists, be they ignorant or well informed as to the established generalizations of science, on venturing to express conclusions from a too limited knowledge of the nature of the ore deposits and of the country they are dealing with:

In 1863 a company of capitalists in Sacramento employed a very eminent mineralogist, since deceased, to represent them at Reese River. He spent the entire summer in the Reese River and Humboldt country without acquiring any property for his company, simply because the country formation did not correspond to his preconceived ideas of what a silver-producing region ought to be. He predicted that the mines of Central Nevada, and especially about Austin, would have no permanence—pinching out in the hard granite at a slight depth. Fortunately his theories and speculations have not been sustained by the subsequent developments in that country. A San Francisco expert, not long since, made an elaborate report on the silver mines of Central Nevada, in which he was particularly severe on the "impoverished limestones" of the Hot Creek country—and, in fact, by implication, all the central portion of the State.

We find the following interesting facts in regard to leading silver ore deposits in Mexico and in Nevada, (with several very unjustifiable deductions therefrom) in an article by "W. W. P.," published in the *Times* of February 20th:

INFLUENCES OF GEOLOGICAL FORMATION, AND DIRECTION OF VEINS.

After an examination of the mining districts of Mexico and subsequent fair experience in the three most important—says the writer—the conclusion is, that silver deposits itself irrespective of geological formation. The direction of the veins, however, appears to modify the elementary composition of the ore. Instances:

EAST AND WEST VEINS HAVE DOCILE ORES.

In the Real del Monte, twenty-five leagues north of the City of Mexico; formation, hard porphyry interstratified with greenstone syenite, gray trap, amygdaloid trap, conglomerate; contains east and west veins—also north and south. In former times the work was confined to two—east and west veins—the Tapona and the Biscaina, running about east and west, sometimes parallel, then in contact, but never interlacing. Subsequently in driving the adit of Moran, the veins of Morau, Rica, San Estephen and Acosta were found; later and farther north, in driving the deep adit, the veins of Valenciana Onyaguez and San Felipe.

This system of veins appears to belong to the Canada of Omitlan, and yield docile ores.

NORTH AND SOUTH VEINS HAVE CALCINING ORES.

In Real del Monte are found the north and south veins of Santa Brigida, and Santa Ignes, yielding ores requiring calcination.

CONTACT VEINS MAY BE AS RICH AS TRUE FISSURE VEINS.

At Guanajuato, in going up the cañada, the whole distance (being about six miles) high walls of jasper conglomerate, containing enormous boulders present themselves—an old sea bottom, in fact. Between this conglomerate and a mountain of chloritio slate, is the celebrated Veta Madre, with the ruins of magnificent mining establishments and specimens of the most skillful mining works ever laid out by man. This vein built up and maintained one hundred years and more a town of 80,000 people, and has this grand mass of sea bottom for a covering, a mountain of chloritio slate to repose upon, and carbonate of lime for its gangue. A sight of these conditions should do away with the prejudice in favor of fissure veins—and against veins of contact, saying nothing whatever about the nature or the want of nature of the formation contacting.

A CASE OF POOR CROPPINGS AND DIFFERENT COUNTRY ROCK.

Now, step out to "La Luz," about ten or twelve miles from Guanajuato; you will find a range of mines surpassed only by those of the mother vein (Veta Madre), and convergiug with her in their course northerly, and which prejudice would not turn her eye to for more than two hundred years, simply because the vein did not assay in the croppings and the formation "Diorite."

ONLY EAST AND WEST VEINS RICH AT ZACATECAS.

This district contains as mother veins the Quebradilla, the Cautera, the Veta Grande, and Panuco, parallel, and from one to three miles apart. There are hundreds of intermediate veins not worth speaking of, although they yield a great deal of money. (Zacatecas miners and good engineers, too, will tell you that it is useless to look for large masses of ore in north and south veins). The four principal veins, however, run ahont east and west, the others in any direction, and one as good as the other.

SYENITE COUNTRY ROCK BARREN, AND GREENSTONE RICH.

The syenite, on ths south, appears to be barren; on the north of the district it has yielded from "Panuco" an enormous amount of money. The formation which has yielded the most of the one thousand millions of dollars is a compact greenstone, carrying some very unwelcome etrata of slate, which, in this district, acts like poison on the ore when the vein comes in contact with it.

AT FRESNILLO, DIP AND FORMATION MAKE NO DIFFERENCE.

Fresnillo, also in the State of Zacatecas, and until lately a very important district, revived in 1827, and since then has maintained a city of abont 18,000 inhabitants. These mines are 2,000 feet in depth. The principal system of veins run from southeast to northwest, crossed by various others running east and west. In both systems, one vein dips one way and another another, without prejudice to their yield, and do the same with the formations they penetrate, starting in gray wacke, passing (richly) through clay slate, then into calcareous slate, then limestone, then slate, then wacke, slate, limestone (a fine school).

ORE ON HORIZONTAL SHELVES ON EACH SIDE OF THE VEIN.

Now step over to the State of Potosi, over horrid alkaline plains, with a drinking-place for your animals (but none for you) about every fifteen leagues, and have a look at the mine of San Augustin, in the district of Cartorce. The formatiou is apparently a homogeneous mountain limestone, but in cross-cutting from the vein it is found to be as rich in marine fossils as the limestone of White Pine. The peculiarity about this fissure vein is that the ore is not found in the vein at all, but in horizontal shelves on each side of the vein, the latter being simply a guide to the engineer. This is still a very important mine and district, and like that of White Pine, admits of two systems of mining, one for the poor man and one for the rich—the first for superficial deposits, the second on the well formed, robust and rich veins, requiring capital for their development.

It may have some effect in allaying the anxiety of the people as to the permanency of the mines in the limestone formation, to state that San Augustin is now 400 yards deep—and would that the Comstobk looked as well in the bottom.

FACT AND THEORY ABOUT THE HEADS OF CANONS.

As this is an attempt to guide explorers, the writer will point out another fact,—that the best mines of a district are generally found at the heads of the cañons. Now all the districts that I have spoken of, save Fresnillo, have their *canones*, and even that may have a subterranean one. Nay, some, like White Pine, with her Shermantown Cañon and Hamiltou Cañon, have two. The good mines of "Real del Monte," at the head of the Cañon of Omitlau; the "Veta Madre," at the head of the Cañon of Guanajuato; the "Quebradilla," at the head of the Cañon of Zacatecas; the mine of "Urista," at the head of the Cañon of Sauceda, in the same district, and twenty-two other *bonanzas*, varying from five to forty millions each, from mines on the same Veta Grande, crossing the heads of the branches of the same Cañon of Sauceda. Nearer home, Gould & Curry, at the head of Gold Cañon; the Ophir, Gould & Curry, and Savage, crossing branches of the Six-Mile Cañon, yielding up the metals they have brought from the plains at the point of contact of the saturated porphyry and hard hornblendic rock. Waste not your time on hillsides. Follow up the cañons.

ORIGINAL THEORY ANOUT TWIN DISTRICTS.

The foregoing is respectfully submitted to the noble and hardy band of men devoted to the exploration of the Grsat Basin, the bottom of the once Mediterranean of this continent. They will find each district twins, good mining grouud within, say, ten miles of each other; expsct then to find another pair within one hundred miles in any of the cardinal directions.

W. W. P.

Portland and its Realm.

Wo have recsived from Mr. J. McCormick, the editor of the "Oregon Almanac," a copy of the Portland Directory for 1869, containing a map of Portland, and a great deal of interesting statistical information relative to the progress and prssent condition of that northern business center, from which we make ths following extracts:

PERMANENCY OF PORTLAND.

Portland has enjoyed more than ordinary prosperity. In the line of permanent improvements alone, it is safe to estimate that more than douhlo the amount of capital has been invested in the improvement of real estate—erecting brick buildings, stores, warehouses, and other permanent structures—during the year just closed, than had been invested in a similar class of improvements during any two years previons. This gratifying fact may be attributed to a variety of causes, the more prominent among which is tho settled fact that has worked conviction in the minds of capitalists—*Portland has ceased to be an experiment.*

MANUFACTURING INTERESTS.

In every department of industry we find active demand existing for all articles now being manufactured in our midst. Scarcely a month passes without some new branch of manufacture being introduced, and in this manner we are rapidly devoloping a trade for home-manufactured articles which must ultimately be conducive of a vast amount of benefit, not only to those interested but the success of home manufactures will also be found to exercise a marked influence on the prosperity of the entire State. A few years ago all the machinery used in working the quartz mines of Eastern Oregon and Idaho had to be procured in San Francisco and shipped to its destination through Portland, but a change has gradually been working in this branch of industry as in many others, as we find that quartz mills and other mining machinery can now be manufactured in Portland as speedily, successfully and economically as at any point on the coast.

AGRICULTURAL MACHINERY.

Oregon is destined to become the great agricultural State of the Pacific, hence the requirements for agricultural machinery will annually be on the increase; it is well, therefore, to begin in time to make such preparations as are requisite for the manufacture of that class of farming machinery without which agricultural pursuits cannot be carried out on a scale of such magnitude as the future export trade of this country will warrant. With inexhaustiblo beds of iron ore, within a few miles of the city—smelting furnaces already in operation, and with foundries and machine shops capable of construeting every variety of agricultural machinery, there will hereafter be no necessity of sending beyond our own borders for that class of machinery now being manufactured at home.

STEAMBOAT COMMUNICATIONS.

Portland and Astoria—Steamer "John H. Conch" leaves Portland Monday and Friday, at 6 A. M. Arrives at Astoria same day, 5 P. M.

Returning, leaves Astoria Tuesday and Saturday, 7 A. M. Arrives at Portland samo day, at 6 P. M. Distance 110 miles; fare $5; freight per ton, $6.

Portland and Monticello—Steamer "Rescue" leaves Portland Monday, Wednesday and Friday, at 7 A. M. Arrives at Monticello same day at noon.

Returning, leaves Monticello Tnesday, Thursday and Saturday, at 2 P. M. Distance, 45 miles; fare, $1; freight per ton, $2.

Portland and Dalles—Steamer "Wilson G. Hunt," "Cascades," or "Julia," leaves Portland daily, Sunday excepted, 5 A. M. Arrives at Cascades at 11 A. M., and there connects; by the Cascade railroad, with the steamer "Oneonta," on the middle Columbia. Arrives at Dalles same day, at 4 P. M.

Returning, steamer "Oneonta," "Idaho" or "Iris," leaves Dalles at 5 A. M., connecting as above with railroad and lower steamers. Arrive at Portland same day at 3 P. M. Distance, 124 miles; fare, $6.25; freight per ton, $15.

Dalles, Umatilla, Wallula and Lewiston—Steamers "Owyhee," "Spray," "Web-Foot," "Yakima," "Tenino," or "Nez Perces Chief," leaves Dalles on Tuesday, Thursday and Saturday, at 4:30 A. M., by the Dalles railroad, connecting with the steamers on the Upper Columbia. Arrive at Umatilla same day, at 5 P. M. Distance, 97 miles; fare, $10; freight per ton, $15; Arrive at Wallula next day, at 6 A. M. Distance, 121 miles; fare, $11; freight per ton, $20. Arrive at Lewiston on the following day. Distance, 284 miles; fare, $20; freight per ton, $45.

Returning on alternate days.

Portland and Oregon City — Steamer "Alert," leaves Portland for Oregon City every morning at 6½ o'clock. Returning, leaves Oregon City for Portland at 1 o'clock, P. M.

Steamer "Senator" leaves Oregon City daily, (Sunday excepted) at 8 A. M. Returning, leaves Portland at 2 P. M.

Oregon City and Corvallis — Steamers "Tannie Patton," "Albany," "Active," and "Reliance," leaves Oregon City for Corvallis and intermediate points every morning, npon the arrival of the "Alert" from Portland.

For Eugene City—Steamer "Echo" leaves Canemah onoe a week for Eugene City.

For Lafayette and Dayton—The steamer "Union" leaves Oregon City every Monday, Wednesday and Friday, on the arrival of the "Alert."

For Colfax—The steamer "Onward" leaves three times a week for Hillsboro.

Portland and Vancouver—Steamer "Fannie Troup" leaves Portland every day at 2½ P. M., (Sunday excepted) for Vancouver and intermediate points. Returning, leaves Vancouver every morning at 8 o'clock.

For Monticello—Steamer "Ranger," J. N. Fisher, Master, leaves Portland for Monticello every Tuesday, Thursday and Saturday, returning alternate days.

Portland and Oregon City—Willamette Steamboat Co's steamers "Carrie" and "Wenat," daily. Returniug every afternoon.

RAILROAD COMMUNICATIONS.

The Oregon Central Railroad is the line following np Willamette Valley, entering Sacramento Valley at its head, and connecting with California roads. Its actual building is being pushed very energetically, by two rival companies, the "East-side" and "West-side," which will construct two roads throughout the length of the Willamette Valley, to Corvallis, from which point southward the ronte is identical. To all appearance the California and Oregon Railroad is a fact, within a year or two of accomplishment.

THE LARGEST RAILWAY STATION IN EUROPE.—The London station at the terminus of the various branches of the Midland Railway, which has been some two or three years in progress of construction, was recently opened. The building is 700 feet in length, 240 feet in width, and 100 feet in hight. Its construction consumed 9,000 tons of iron, 80,000 cubic feet of dressed stone, and 60,000,000 of brick, to say nothing of the many thousand feet of timber and glass. It is already one of the sights of London, and it is doubtful if it will ever be exceeded, as no other company can ever require a building of such magnitude.

Mechanical.

The Ellershausen Process.

The *Iron Age* describes in full this recent and remarkable invention, and says it is being already rapidly introduced all over the country. The process consists in the conversion of crude cast iron, as it runs from the smelting furnace, into wrought iron, by the simple admixture of granulated iron ore. It is carried out at the works of Messrs. Shoenberger, at Pittsburgh, in the following manner: On the casting floor of the smelting furnace, a cast iron turn-table, about 18 feet in diameter, is revolved on rollers by a small steam engine. Upon the outside edge of the table stand a row of cast iron partitions, forming boxes, say 20 inches wide and 10 inches high, open at the top. Just above the circle of boxes stands a stationery, wide-mouthed spout, terminating in the tap hole of the furnace. When the furnace is tapped, the liquid iron runs down this spout in a thin stream into the boxes as they slowly revolve under it, depositing in each a film of iron say one-eighth of an inch thick. But before the fall of melted iron reaches the boxes it is crossed, at right angles, by a thin fall of pulverized iron ore, which also runs out of a wide spout from a reservoir above. The thin layers of iron and ore soon chill and solidify, so that by taking away the outer partition of the boxes (which form the rim of the turn-table) they may be removed in cakes of the size of the boxes, and weighing about 200 lbs. each. Four of these cakes or blooms are put into a reverberatory puddling or heating furnace, and raised to a bright yellow heat. They will not melt at this heat, but become softened so as to be easily broken up with a bar. The four blooms are formed in the furnace by the "rabble" of the workmen, as in ordinary puddling operations, into eight balls. The balls are brought out, one after another, squeezed in the ordinary "squeezers" to expel the cinder and superfluous ore, and then rolled into wrought iron bars.

Ingenious Compass to Indicate Local Attraction.—A citizen of Roanoke County, Va., Mr. Samuel Custer, has invented a compass, which professes to show the presence and direction of local attraction, the extent of the same, and to indicate, under all circumstances, the magnetic meridian as truly as does any compass when under no local influence. It consists of three systems of magnetized needles, or bars, (each system numbering from two to a dozen bars) arranged in different horizontal planes. When placed on board an iron ship, for example, the middle system of needles is adjusted at a point on a perpendicular rod in such a manner as to repel the upper needles back to the magnetic meridian. It is only necessary to adjust the middle system of needles with reference to the local attraction existing on board of that particular ship. No change in the direction of the ship makes any difference in the pointing of the upper needle; while the lower systems have a graduated card attached to the upper end of the axle to which they are attached, to indicate their movements.

Wooden Car Wheels.—The New York *Post* says that wooden wheels are coming into favor. They are used on the London Underground Railway,—and the Hudson River Railroad Company has recently placed twelve of them upon their "drawing-room cars" as an experiment. These wheels,—the "Mansell",—are made of seasoned elm or teak, with steel tires. Although they cost three times as much as the cast iron wheels, they will wear eight times as long, owing to their elasticity. Moreover, the wear to the track is less. They are said to add much to the comfort of passengers; the motion of the car being so noiseless that conversation may go on without inconvenience, and so smooth that reading and even writing may be easily and comfortably done.

The Shelbourne Submarine Drill.—Hell Gate is to be cleared of rocks. Nitroglycerine will be used. Shelbourne's steam drill was at work on January 14th,—according to the *Tribune*,—in putting four 6-foot holes into the rocks at the bottom, to receive as many 6-foot ring-bolts, to which the vessel containing the apparatus will be moored in the midst of the boiling waters. The diver who superintends the work communicates with the men in the vessel by means of an electric bell. The reporter of the journal named above says the drilling of one of these holes occupied only one hour. The vessel was held in its place meantime by anchors. The work could go on only at a certain stage of the tide.

New Railway Joint.—An Edinburgh engineer has patented an improvement which "consists, in the first place, in the insertion of two cast iron keys or wedges, which are driven into the chair from opposite directions against the rail, and are tied together with a single bolt and nut in a direction parallel to the rail. Secondly, in casting on the inner surface of one side of the chair two projecting pins, which pass into elliptical orifices at the extremity of each rail opposed to the plane of the wedges, thus making the necessary provision for the expansion and contraction of the metals."

Broken Rails.—A writer in the New York *Times* suggests an oak plank a foot wide, fitted to the outside of the rail, bolted to it every three feet, and screwed down to every cross sleeper,—as a means of preventing those breakages of rails which are the cause of so many frightful accidents. It would not only lessen the chances for the breaking of the rail, but would prevent its displacement even if it did break. The car therefore could not be thrown off the track. To make this doubly sure, the writer in question proposes an *inside* plank also,—thinner than the first, to allow space for the flenges of the wheels. The cost,—he says,—would be some $2,000 per mile, and its saving of damage at least as much.

Power Looms.—The first power loom was constructed by Rev. E. Cartwright in 1787. In this country, Mr. Francis Lowell,—after whom the city of Lowell, Mass., was named,—employed a mechanic to build one at Waltham in that State. This was in 1815. Patterns had been received from Glasgow during the previous year, through William Gilmour, who built a loom soon after at Providence, R. I. This commenced the era of power looms in the United States; and the hand looms which had up to that time done all the work, become comparatively idle.

Clothing Boilers.—The economy of covering boilers with some non-conducting coat is strikingly shown by some recent experiments at the Newport (Eng.) iron works. The result was as follows: The conditions and circumstances being in all respects the same for two consecutive weeks, during one of which weeks the boiler was left uncovered, but during the other was covered with a certain patent cement, eleven thousand gallons of water was evaporated in the first case, against sixteen thousand in the last. The immense loss of heat, and of course waste of fuel, in the first case, is evident.

Machine Tools.—"One of the best features of modern mechanical engineering is the increased weight and better fitting of machine tools; not simply because the work they turn out is better done, but because it is done more cheaply. For instance, a light planer can neither take a heavy cut nor a true one. When work leaves a tool it should be finished—subsequent handscraping and draw-filing are neither beneficial nor economical. A planer can hardly be too heavy. Another feature of modern practice is the use of special tools that can do one thing rapidly and truly, instead of convertible tools that can do anything. Versatility is not to be condemned; but in the extensive and regular reproduction of a given product, the sphere of the Jack-at-all-trades is limited."—*Van Nostrand's Engineering Magazine.*

Scientific Miscellany.

Constitution of the Sun and its Source of Heat.

We condense the following from Prof. Henry Morton's lecture before the Franklin Institute upon "Sunlight and Moonlight":

"We believe that the Sun consists of a dense central mass, composed of only the most refractory materials, intensely hot, and probably fluid, at its surface, at least, with heat. From this supernatant ocean of melted matter, rise, continually, streams of vapor, which, at a certain distance, begin to condense, through loss of a part of their heat by radiation into space, and form clouds of minute liquid particles, intensely hot, and therefore luminous in a high degree. These clouds form the visible surface or photoscope of the sun, and are composed of such elements only as will endure an intense heat without vaporizing. Above this cloud region, extends another, which may be called the true atmosphere of the sun, being composed of such elements as are permanently gaseous under the conditions of high temperature there existing. Such substances as sodium, magnesium, calcium, iron, are believed to exist as permanent vapors in this region, as well as hydrogen and other gases. Into this region are occasionally projected denser aggregations of similar vapors, as of sodium, magnesium and iron, which float, for a time, as clouds of ignited gas, before diffusing among the surrounding mixed atmosphere.

As a source of this intense heat, we believe there exists the following action: The space of the solar system is filled with a vast number of ponderable objects, individually minute, but, in the aggregate, considerable. Some of these, from time to time, fall upon our planet, and are then called meteors; they are, however, much more densely aggregated as they approach the sun, and, by mutual interference and disturbance, will be constantly losing their orbital directions, and, under the influence of gravity, falling in upon the solar mass. A cannon ball has a velocity of 1,500 feet per second, or about one-third of a mile; it almost grows red-hot by its impact with an iron target; what heat would it develop if its velocity were 60 or 80 miles—that is, 180 to 255 times as great?

But what evidence have we that such masses of matter are in existence, and are rolling in upon the sun? The zodiacal light is the first proof. The most natural hypothesis as to this appearance in the plane of the ecliptic is, that there are here a cloud of minute bodies revolving around the sun, illuminated by his light. Variations in the apparent magnitude and intensity of the light, point to changes in the conformation of this swarm of minute planets, and agree with the supposition that part of them are, from time to time, falling in upon the sun. The next proof is furnished by the meteors. There are a great number of streams, rings, or elongated cosmical clouds of such bodies sweeping in, to and around the sun, from all parts of space. Through these streams the earth passes at certain seasons, and we then see a shower of shooting stars. It would appear from the observations of Schiaparelli and Newton, as well as of others who have given attention to Meteoric Astronomy, that the earth's orbit intersects at least thirteen of these streams, among which, some, as that of the November meteors, are well defined.

The mutual interferences in motion, and consequent in-fall upon the sun, of masses so grouped and thus moving, must be constant; and, indeed, in at least one remarkable case, we have palpable evidence of such an action. In December, of 1845, Biela's comet was seen to be divided in two, and, on the date of its calculated return, in 1865, it had disappeared entirely. Now, at each of these periods the comet appears to have passed through the orbit of the meteors of November 27th, whose direction of motion is retrograde, while that of the comet is direct; and it would thus seem that the resistance offered by the innumerable minute particles of the meteoric stream, had first divided the comet, and then caused it, together, no doubt, with these conquering atoms, to fall into the sun."

Volcanoes in the Moon.—Dr. Montucci, in a recent communication to the French Academy of Sciences, explains certain remarkable luminous protuberances upon the moon's limb, which were observed by M. de Créty at the time of the solar eclipse in August last; "The protuberances were either gaseous or composed of matter in an extremely fine state of division. If on the posterior [illegible] of the moon, invisible to us, there had been three volcanoes in activity at the time of the eclipse, and close to the moon's border, the smoke or ashes ejected by them would have been visible, and would have presented the appearance described by M. de Créty."

Dr. Montucci shows by calculation that an observer's eye could just skim the crest of a lunar mountain 786 feet high, at a distance of one degree from the border, or 6,000 feet of elevation at five degrees distance, in which case the whole volcanic jet would be lancet-shaped, because the moon's atmosphere, being infinitely thinner than ours, could not, by its resistance, force the ejected matter into a mushroom form, as is the case with our volcanic eruptions. Dr. Montucci proves that the jet must necessarily end in a point, and rise to an enormous hight. The three supposed volcanoes may very well have been in communication with each other, as is often the case on our earth. Hence, most probably, M. de Créty witnessed a volcanic action on the posterior hemisphere of the moon, for the first time manifested to us in this strange way.

Primeval Chemistry.

We quote the following from a lecture upon this subject recently delivered before the American Institute, by Prof. T. Sterry Hunt:

"Suppose the earth to be now melted with fervent heat. Every chemist can readily see that by bringing together the limestone and the waters of the ocean under such conditions, sulphur also being present, the sulphur, the chlorine, and the carbon would be transformed into gases; the alkalies, lime, alumina, and magnesia, would unite with the acid gases to form sulphates, carbonates, and chlorides, while the metals, with silica and alumina, would combine in the crust to form a substance similar in composition to what are now known as slags, and over and above this an atmosphere, charged with acid vapors—sulphur and carbon in the form of gases, and water in the form of steam, mixed with the elements of the atmosphere, nitrogen and oxygen, and carbonic acid, or the elements of carbonic acid in the free state. Under these conditions the atmospheric pressure would be immense, and the barometer would stand three or four times as high as it now does. Under the pressure of such an atmosphere, water and the less volatile materials would be precipitated upon the rocks. The water would, of course, be strongly charged with acids—hydrochloric and sulphuric—and being fluid, would fill the cavities and spaces in the solid earth. The result would be, at this high temperature, to give rise to the immediate decomposition of the silicates and carbonates, and set free the whole of the silica, while the acids would combine with the lime, magnesia, soda, and many of the metals; chlorides and sulphates would be formed, while the silica, separating, would form quartz. The salts of lime, magnesia, and soda would dissolve in the water, and form sea water. The activity of the combinations would gradually become less violent, as the affinities would be rapidly satisfied. The acids would combine with the rocks until they got their full equivalent, and then would commence a new process. A process of slow decomposition by air and water would now set in. Carbonic acid and water would attack the silicates, and take the lime from them; clay, bicarbonates of soda, etc., would be formed, which, dissolving, would find their way to the sea, where chloride of sodium or common salt would also be formed. This action is still going on upon the feldspathic rocks, decomposing the strongest quartz and making clay, though much less rapidly than formerly on account of the diminished quantity of carbonic acid in the atmosphere. Every lump of clay, then, upon the earth's surface represents granite decomposed, limestone formed, and salt added to the sea."

Death of a Naturalist.—John Cassin died in Philadelphia on Jan. 10th, aged 56. He was an ornithologist of note. He published a work entitled "Birds of California and Texas"—a handsome octavo volume, containing descriptions and colored engravings of fifty species not given by Audubon. He also published "Synopsis of the Birds of North America;" "Ornithology of the United States Exploring Expedition;" "Ornithology of the Japan Expedition;" "Ornithology of Gillis' Astronomical Expedition to Chili;" and the chapters on rapacious and wading birds in the "Ornithology of the Pacific Railroad Explorations and Surveys."

Difficult Harbors Made Safe Without Engineering.—The trial trip of the tng "Escort," bnilt at and intended for Coose Bay, snggests tbe facility with wbich our difficnlt harbors on the Pacific coast are made quite safe and essy of entrance, withont the necessity for great engineering undertakings. Coose Bay bss one of the finest coal mines in the world, adjacent to ship landing; and the principal difficnlty in the way of its rapid development, has been its dangerous bar. This has been overcome by the enterprise of Messrs. Howsrd & Pool, wbo have wisely pnrcbased tbe coal mines, and of Mr. Pershbaker, the present proprietor of several ssw mills in the vicinity. Thus, Hnmboldt Bay, Coose Bay, and the month of the Columbia, are not by any means the unpromising points, commercially, that they have become reputed to be, from the misfortnnes of ill advised or ill piloted sailing vessels. In estimsting the availability of harbors on tbe Pacific coast it is only necessry to take into consideration the proportion of days in the yesr when the bar breaks so violently as to endanger or incapacitate a steam tng.

Incombustible Buildings.—Signor A. Borgbi has been experimenting for four years with tbe view of removing the serions objection to the Burnett process which existed in tbe fact tbat the smell of wood prepared by it was intolerable. The process, as is known, consists in the nse of tungstate of soda for rendering wood and other snbstances incombustible. Signor Borghi, aided by tbe Italian government, bas, it is said, removed tbis objection, and tbns perfected the process. The new tbeater in Florence has all its wood work and timber prepared by the new process; and an attempt to set it on fire from the stage, which was made by way of experiment, failed. The formula is not as yet published by the Italian journals.

Darwinism in Germany.—Prof. Carl Vogt, the most popular scientific lecturer in Cntinental Enrope, has been giving an interesting conrse of lectures on prebistoric man at Antwerp, lately. His object is to show that, the fnrther back we go into the past, the less development there is in the human form. Everywhere in the prehistoric period we meet in man with characteristics bringing him nearer and nearer to the lower animal; prominent eyebrows, slanting teeth, flat chin, are always found in connection witb the earliest periods of the human race. Development of form has always kept pace with that of the brain, the size and weight of which are proportionate to the increase of the intellectnal faculties. In the ape, all the peculiarities of the skull and face are tbe frnit of advancing years; the new born creatnre has the appearance of a bnman infant. But a man cannot be traced back to the ape actually living; he descends with them from a common stock, from wbich they bave branched ont into three races: the orangontang, the chimpanzee, and the gorilla. According to Dr. Vogt, man nnites in himself certain characteristics of each of these branches, viz.: the brain of tbe orangontang, the skull and teeth of the chimpanzee, and the limbs of the gorilla.

Locher's Steam Plow at Oroville has been completed, and a pnblio trial was to have taken place on tbe 24tb inst., the results of which we look for with interest. At a private trial which took place on the 15th, tbe work is said to have been done in a manner satisfactory to those present. We are informed by Mr. Locher that bis plow both turns and pulverizes the soil in a very thorough manner.

Report of the Nevada State Geologist.—The report of the Nevada State Geologist, the Rev. Mr. White, has been sent in to the Legislatnre, at Carson, bnt is no yet published. We notice several extracts in the Nevada papers, from which we expect that the report will furnish ns with much valuable information.

We need scarcely tell our readers that it is the best mining and scientific paper published on the continent. *Arizona Miner.*

New Incorporations.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

Appleton S. M., M. & T. Co.—White Pine, Nev. Capital stock, $4,000,000; 40,000 sbares, $100 eacb. Trustees: Samuel Adams, E. J. White, S. C. Bradshaw, T. Stabl and John D. Dusheon.

Cliff Lode and Tunnel Co.—White Pine, Nev. Capital stock, $1,000,000; 10,000 shares, $100 each. Trnstees: G. C. Rogers, H. E. Green and Henry Schmiedell.

Cortez S. M. Co.—White Pine, Nev. Capital stock, $2,400,000; 24,000 shares, $100 each. Trnstees: G. C. Rogers, H. E. Green and Henry Schmiedell.

Tabasaca S. M. Co.—White Pine, Nev. Capital stock, $750,000; 7,500 shares, $100 each. Trnstees: A. K. P. Harmon, H. DeGroot, W. E. Dean, Chas. Hosmer and W. H. V. Cronise.

Crown Lode and Tunnel Co.—White Pine, Nev. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: W. B. Bourn, A. K. P. Harmon, Chas. Hosmer, W. E. Desn and H. DeGroot.

Ascendant M. & M. Co.—Capital stock, $1,300,000; 13,000 sbares, $100 eacb. Trustees: L. L. Alexander, C. W. Kinsman, D. McLaren, Albert Shepard and L. B. Drew.

Dundee S. M. Co.—White Pine, Nev. Capital stock, $1,000,000; 10,000 ahares, $100 each. Trustees: W. E. Dean, Chas. Hosmer, A. K. P. Harmon, H. DeGroot and W. H. V. Cronise.

Willimantic Silver Mining Co.—White Pine, Nev. Feb. 20th. Capital stock, $1,000,000; 4,000 shares, $250 each. Trnstees: James B. Johnson, H. W. Fortune, C. A. Uhrig, H. J. Stone and Fred Lux.

Daniel Webster Silver Mining Co.—White Pine, Nev. Feb. 23d. Capital stock, $1,200,000; 1,200 shares, $100 each. Trustees: Wm. Selby, C. A. Uhrig, H. J. Stone, J. D. Thompson and Andrew Jackson.

Treasure Hill Consolidated Mining Claims and Tunnel Co.—White Pine, Nev. Feb. 24th. Capital stock, $5,000,000; 50,000 sbares, $100 each. Trnstees: R. W. Heatb, P. J. White, J. H. Baird, James Hitchins and Geo. F. Maynard.

Treasure Hill Tunnel Co.—White Pine, Nev. Feb. 25tb. Capital stock, $2,000,000; 20,000 shares, $100 each. Trustees: C. W. Fnx, M. J. McDonald, A. Hayward, Frank Livingston and R. E. Brewster.

Five-forty S. M. Co.—White Pine, Nev. Feb. 25th. Capital stock, $1,200,000; 12,000 shares, $100 each. Trnstees: D. W. Taylor, H. F. Wheeler, J. M. Buffington, A. Averill and R. S. Miller.

Silver Terrace Mining Co.—White Pine, Nev. Feb. 25tb. Capital stock, $1,000,000; 10,000 sbares, $100 each. Trustees: J. D. Thompson, Samuel Hyneman, E. S. Gauer, E. M. Hall and Henry DeGroot.

San Rafael and San Quentin Railroad Co.—Feb. 19th. Capital stock, $500,000. Directors, A. Mailliard, S. V. Smith, James D. Walker, Jacnh Short, P. K. Anstin, L. A. Hinman and James Ross; President, A. Mailliard; Treasurer, James D. Walker; Secretary, Chas. Stevens.

Elevated Roadway for Velocipedists. Mr. Dana, of the New York *Sun*, one of the most expert velocipedists in that city, advocates a project to bnild an elevated roadway from Harlem to the Battery, to be nsed only by the riders of velocipedes. The *Scientific American* says: "By this means it would be possible to go from one end of Manhattan Island to the other in about an hour, making allowance for delays from stoppage and accidents. The proposed roadway ought to be at least thirty feet wide, upon an iron framework; witb a flooring nf hard pine. By all means let us bave tbe 'elevated roadway,' and let tbe sidewalks be kept clear for pedestrians, wbo are otherwise likely to be endangered by the carelessness or awkwardness of velocipedists."

The Exact and Natural Sciences.—Mr. Latham's lecture on this subject before the Young Men's Christian Association, on Tuesday evening last, was listened to by a large audience, and was highly appreciated. It was published in full in tbe *Herald* of Febrnary 24tb.

Engineering.

Important Telegraphic Scheme.—A bill is before Congress autborizing James F. Hall and associates to constrnct, at their own expense, a new experimental telegraph between Washington, New York and Boston, and to run opposition to the present lines on condition of charging but one cent per word.

The company propose to use the iron pole, a model of strengtb and beanty, of which there are over 400,000 in use in India. Instead of tbe present wire, they will use an "air cable," consisting of ten, perbaps fourteen copper wires, whicb will mske the cable about one inch in diameter. Esch wire is composed of four strands compactly twisted, separstely insulated, and again insulsted, so as to prevent any disturbances from atmospheric causes. The company bave given this cable the most thorough tests fnr over a year, and they find it is jnst ss reliable in stormy weatber as in fsir. They will nse their new machine, which at a low and reliable working test will transmit one bnndred words per minute (as rapidly as a very slow speaker) for each wire, or for a ten-wire csble sixty thonsand per bour. Their messages are sent and received on metallic bands, and when they have to be repeated it is not necessary that they bo re-written, but the receiving band is placed in tbe hopper of the delivering machine, and the message is off without delay, and with mathematical exactness. This can be repeated any number of times. The compsny own nearly all the tclegraphic inventions which have been made for the last five years.

Another Overland Telegraph Line.—Arrangements have been made between certain capitalists East and in this city, says the *Alta*, which will insure the construction of a telegraph line from this city to tbe East, making a connection witb lines on the other side running west from New York. It is considered that the enterpise will be a paying one. The line is projected to tonch all the paying ronte, incinding Virginia City, White Pine, etc.

Railroad Items.—The Virginia and Trnckee Railroad, on whicb ground was broken last week, is to rnn to Carson, it appears,—a direction opposite to that of the Truckee,—and it is stated that a number of other points will be "connected with" before it reaches the Truckee; for example, the wooded sectinn np the Carson Cañon. Two tnnnels are to be run, one at the head of American Ravine, of 600 feet. Tbe work of track-laying will commence at Carson, as that is the nearest point where ties can be obtained. I. E. James is chief engineer of the road, and H. M. Yerkington, superintendent. It is expected that the road will be completed and in rnnning order by November next.

The side tracks, switches, turn-table, water-tenk and passenger depot, at the Gilroy railroad terminus, are all in rapid progress, while the hallasting is being pushed forward with energy. Preparation is being made for an early reception of the passenger cars.

The tracklayers on the Central Pacific Railroad, February 20th, reached a point 567½ miles east of Sacramento, and were going ahead at the rate of 2½ to 3 miles per day. Some heavy cnts had been encnnntered in front, and the tracklsyers were crowding tbe graders. The company have on the otber side of tbe mountains a snfficient qnantity nf rails, spikes, etc., to lay 80 miles of road. This lot of material is depnsited at Reno, Wadsworth and other places on tbe road, and constitutes a sort of "reserve" to be nsed in case of a serious blockade in the Sierra Nevada Monntains.

The two o'clock train of the Ceotral Pacific Railroad took out, on the 23d inst., a large nnmber of sdditional tracklayers, the company emplnying all the men of this class they can obtain. They pay them $2 a day and board. The *Sacramento Reporter* says the company is determined to lay fnur miles a day till the road is completed.

On the 16th inst. the constrnction trains reached Independence Springs, 60 miles east of Elko. There was no more snow than in the vicinity of Anstin. At Cedar Pass, four miles west of the springs, the railroad company has a force of 800 wood choppers, and J. M. Dorsey bas 300 more. It is estimated that the cedar and nut pine timber of the locality will supply the wants of the road for a couple of years. The wood is now carried as far west as Winnemucca.

The interrnption of travel upon the Union Pacific road during the present winter, by reason of the snow, bas been very trivial, says tbe *Chicago Tribune*, and not more than thst experienced on the Northwestern Railroads. Overland passengers, however, report being snow-bound for ten days near the hight of land east of Green river.

When tbe railrosd is completed, it will take 48 bours fnr transit between Salt Lake and Omsha. Vice-President Durant says the road will reach Ogden City between the 1st and 10th of Msrch next.

Robebt L. Harris, C. E., late of the Sacramento and Vallejo Rsilroad, bas been engaged with a snrveying party in making a preliminary survey for the location of a railroad from Monterey to the Salinas river, nnder what is known as tbe Titus Hale franchise. Tho length of the road will be about 13 miles.

The *Stockton Gazette* of the 18th says: We are informed that next week the cars will commence running regulsrly from Sacramento to the Cosumnes, a distance of about 20 miles, where the Stockton and Sacramento stage will connect witb the railroad and transfer its passengers to tbe cars. This arrangement will shorten the time between this point and Sacramento several honrs, and be a great convenience to travelers.

The *Gazette*, of February 23d, says a surveying party, in the employ of the Central Pacific Railroad Company, with Capt. Stade at its head, commenced on that day tbe survey of a rnute for a railroad from Stockton np the San Joaquin Valley.

It is a coincidence wortby of note thst the Suez Canal and the Pacific Railway will be completed and open fnr service in the same year and at nearly the same date.

Suspension Bridge between New York and Brooklyn.—The Honse Committee on Post Roads and Canals reported in favor of bridging East river, between New York and Brooklyn, and the telegraph reports that a bill granting the right of way, has been passed. The bridge must be 130 feet high, with but one span, having no piers in the river. Its estimated cost is $10,000,000, and will take five or six years to construct it.

Nevada City Survey.—The Nevada *Gazette* says tbat the city trustees bave contracted witb H. S. Bradley to make a snrvey of the lands within the corporation limits. The contract price is $750, for which he measures every lot, and makes two maps on tbe scale of 80 feet to tbe incb.

The Quail Hill "Chemicals."—Some time ago we gave an outline of the results obtained at Quail Hill, where ore which bad paid only $4 per ton by amalgamation in the battery and on copper riffles, had been made to yield $32 of silver and gold in tbe pan. At tbat time we were not informed of the nature of the chemicals used, but we have since been told that they were merely quicklime and common salt—thirty pounds of each to the ton of ore. After the muller is raised and the qnicksilver put in, the pulp shonld be examined from time to time. A spoonfnl of it sbould contain a mnltitude of globnles of bright quicksilver; if there is no quicksilver, the pulp is not thick enongh; if the mercury is not bright, more lime and salt are needed. There is little danger of having too mucb of them. Cyanide of potassinm was nsed also, but tbe opinion prevailed that it was not needed with quicklime.—*Alta.*

Mining in China.—A Chinaman has come in, says a Hongkong letter writer, with the report that a certain hill, about seven li from Tan Yang, which last year at this time was supposed to contain coal, and for whicb some foreigners were then negotiating, has turned ont to contain gold and silver. The country people are said to be in excitement abont the discovery, and the place has been walled in to prevent depredations.

Causes of Explosion.—Tbe Hartford (Connecticut) Steam Boiler Inspection Company report for the month of Decmber 341 boilers examined externally, and 70 internally. In these, 168 defects, of which 32 were especially dangernns, were discovered. Fractnres, burned and blistered plates, incrnstations and corrnsions, safety-valves overloaded, blow-ont apparatus, water gauges, and pressure gauges nut of order, *stop-cocks between the safety-valve and boiler*, etc., etc.—were among these defects. All these boilers were in actual nse.

Continental Life Insurance Company, 203 Montgomery street, corner of Pine.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, February 7, 1869.

City Stocks.

The market for stocks other than mining has been remarkably quiet. Sales of Spring Valley Water stock were made at $68 50@69. A small amount of Santa Clara Co. bonds were disposed of at $76.

A meeting of the stockholders of the Sacramento Gas Company is to be held on the 30th of March next, for the purpose of considering the increase of the capital stock of said company from $500,000 to $1,000,000.

The returns of our local insurance companies to the Internal Revenue Department, for the month of January have been as follows, upon a currency basis of 75 cents to the dollar:

Pacific	$30,811
Union	42,109
Fireman's Fund	22,869
California	9,058
Merchants' Mutual	24,088
Occidental	12,532
Home Mutual	13,733
People's	17,130
Total	$222,341
Same time in 1868	158,573
Increase	$63,768

The receipts of the city railroads for this month of January have been as follows:

Omnibus	$22,216
North Beach and Mission	20,389
Central	12,564
Front Street, Mission and Ocean	7,849
Market Street	9,886
Potrero and Bay View	2,009
Total	$76,843
Same time in 1868	67,069
Increase	$9,774

Mining Share Market.

Few persons are aware of the mineral product of what is termed the Comstock Lode. It occupies a foremost place among the silver yielding regions of the world, and has proved a grand dispenser of material benefit to this State. From the date of its location and exploitation to the 1st of April, 1866, the bullion product of this lode amounted to $51,380,588. Since then the average annual yield has been about $11,000,000, which will make a total production of about $85,000,000 by the first of April, 1869. The cost of reducing the ore has been gradually lessened from $30 to about $20 per ton, at which latter figure it remains until superior and cheaper methods shall be discovered. Owing to mill facilities the Imperial and Empire companies, several years ago, were enabled to mine and reduce ores at an expense of $15 per ton. The claims upon this lode are too numerous to particularize; but from our voluminous statistics we select the Gould & Curry and Savage as fair samples. The first was opened and work commenced on it in June, 1860, since which time to November 30th, 1866, it yielded $13,626,871 in bullion, from 230,516 tons of ore, being an average of $59 02 to the ton; but the highest yield of this ore was from July to December, 1860, when it amounted to $156 62 per ton. In 1867 it decreased to $24 66 per ton, and at the close of that year the total bullion product of the mine was $14,282,876. During the year 1868 the receipts from bullion and ore sold only amounted to $95,285. The average yield of ore reduced was $18 14 per ton. The Savage mining company, from date of its organization to July, 1868, nearly seven years, shows an ore yield of 270,521 tons, from which was obtained $11,327,700 in bullion, equal to upwards of $41 per ton. Since the above period to the close of January, 1869, the bullion yield has been $1,183,389, making an aggregate production of $12,211,089.

Although the expenses which have been incurred by working the Comstock Lode have nearly equaled the value of its product, immense benefits have inured to almost every industry in the State from its discovery and exploitation. It has been a fountain of wealth to thousands beside its owners, its influence being felt far and wide, stimulating enterprise and facilitating operations in other fields of industry.

The new discoveries in Lander county, Nevada, promise to become valuable adjuncts to the Comstock Lode. The returns from that region, for the three months ending December 31st, 1868, show that forty-nine mines yielded 2,493 tons of ore, valued at $870,554 45, which is an average of $349 20 per ton, in currency. As these mines are still in their infancy we are not in possession of any very definite statistics in their regard; but all accounts agree in describing them as unprecedentedly rich. Whether they will match the endurance and steadiness of the Comstock Lode remains to be proved, although nothing has yet transpired to cast doubt upon the permanence of many among them. One thing is certain: They will attract a large immigration bent upon producing only the precious metals, and all their supplies must be drawn from this city. Like the Comstock Lode they must put new life into nearly all our industries, and command respectful attention from all classes. If additional expense attends the working of these mines it is more than compensated by the greater richness of its ores. With the possession of the Comstock Lode and the White Pine district, Nevada can flourish her silver sceptre in the face of all the world.

The transactions at the Stock Board were very fair for the week, if we take into consideration that no sessions were held on last Monday and Tuesday. Some stocks exhibit a marked improvement, and, as a general thing, the stock market is in a very healthy condition. We notice a considerable falling off in time purchases. At the close this market is not so strong, and, as a general thing, stocks are slightly off.

Belcher—closed at $30 50. They reached ore on the 200 level which assays $300 to the ton, but the deposit is not yet very large. On the 335 level they are still following up the ore, with strong hopes that it will turn out well. They have been successful in finding three feet of ore on the 335 level..... Kentuck gained rapidly within the past few days, rising from $217 last Saturday to $250 on the 25th, and closing yesterday at $238. Receipts of bullion for February account to the 23d foot up $30,248.

Hale & Norcross—ruled at $87@71, and closed at $74 50. On February 23d the quartz was about eight feet wide in north face, four feet of which is said to be very good ore, the balance being very low grade. The winze from the fourth to the fifth level is down twelve feet, showing about four feet of fair grade ore. No material change in the winze from the third station, or in the raise up from the fourth. In both places they find moderately fair ore..... Segregated Belcher improved to $13, and closed at $11 75. The drift inside the line of the Belcher ground is reported to look well..... Amador (Cal.) is in request at an advance, selling at $275. The reports from the mine continue very encouraging. On the 24th inst., the ore in the north face of the drift was six feet wide and of rather fair quality. In the winze from the fourth station the ore is about three feet wide.

Imperial—sold at $109@112, closing at $110. Resumed work in 1,000 level drift on the morning of the 25th, and at noon of same day on the 1,100 level. Previously had gone 115 feet northward on 1,000 level and 16 feet beyond the east clay.... Savage was in the market to a considerable extent at $71@65, closing at $67 50. During the week ending February 20th, it is reported, 1,400 tons of ore were extracted, valued at $50,000, which is nearly equal to $36 per ton. .... Chollar-Potosi was in very limited request at $165@169, closing at $167. During the week ending February 19th 830 tons of ore were extracted from the Blue Wing locality of this mine. This portion of the claim is reported to be rapidly giving out. In the new shaft at the 920 level the drift opened into a larger amount of quartz, but no ore is yet visible. On the 1,100 level drift work has been suspended, having reached the west wall. On the 22d inst. $15,640 in bullion was sent forward to the office in this city..... It is reported that the Justice and Independent has developed some ore. Sales of this stock have been made at $21@13 50, and at close realized $15.

Ophir—is in better request, improving from $40 50 to $42, and at the close selling at $41 25. The lower drift is now thirty feet in length. On the night of the 23d inst., they cut a clay seam from one to three inches in width, running north and south. The rock shows no change, and at present there is no water in the drift.... Yellow Jacket has been less active than last week, improving from $67 50 to $72 25, and closing yesterday at $71 75.

Match It.—Ay, Messieurs of the Faculty, furnish if you can from your repertory of medicaments, a compound or a simple substance that will produce the same beneficient results that the Plantation Bitters are producing in all parts of the United States, tropical America, and the West Indies, every day. What will this preparation do? Briefly, it will replace debility with strength, regulate the disordered liver, tone the relaxed nerves, arrest the progress of emaciation, restore the appetite, relieve headache, cure fever and ague, prevent the evil effects of unwholesome water, chase away mental gloom, and mitigate or remove most of the physical troubles peculiar to the gentler sex. Will any of the official preparations do all this, or *half* this? If so, how is it that the masses reject them all, and put their trust unhesitatingly in this widely advertised specific?

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale
Amador Co., dividend, $6 per share	Payable Feb 10, 1868	
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Belcher, Storey co. Nev., Dec. 31, $25	Jan. 30	March 2
Chalk Mountain, Nevada co., Jan. 13, $2	Feb. 15	March 8
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12 1868	
City R. R., San Francisco, Jan. 6, $5	Feb. 16	March 6
Coney, preferred Stock, div. 2½ per cent	Feb. 10, 1869	
Chloride Mt. Tun., White Pine, Feb. 2, 50c	Mar 13	Ap. 10
Daney, Lyon co. Nev, Jan. 9, $2	Feb. 12	March 1
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $5	Payable Jan. 20, 1869	
Folsom St. & Ft. Pt. R. R. Jan. 30, $5	March 3	March 20
Gold Hill Cons., Storey co., Jan. 8, $1	Feb. 13	March 1
Gould & Curry, div., $1.50	Payable May 15, 1867	
Golden Chariot, Idaho, div., $2.50	Payable Feb. 10 1869	
Golden Chariot, Idaho	Annual Meeting, March 1	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co., div. 50c per sh	Pay. Feb. 26, 1869	
Glenwood, El Dorado co., Feb 19, $25	April 2	April 2 *
Hale & Norcross, div. $125	Sept 16, 1867	
Hale & Norcross, Storey co., Feb. 12, $5	March 5	March 31 *
Hale & Norcross, Storey co	Annual Meeting March 10	
Hope Gravel, Nevada co., Feb. 24, $1	March 29	April 19
I X L, Alpine co., Jan. 19, $1 50	Feb. 27	March 17 *
Imperial, Storey co., Nev., div	Payable June 20, 1868	
Juan Bautista, Santa Clara co., Nov. 27	Sale Jan. 30	
Julia, Storey co., Nev., $2 50	Feb. 10	Feb. 27
Kentuck, div. $20 per share	Payable Jan. 10, 1869	
Mt. Tenabo, Lander co., Jan. 23, 75c	March 5	March 30 *
Mohawk & Montreal, Nev. co., Feb. 10, $3	Mar. 15	Mar. 31
Mohawk & Montreal, Nevada co	Meeting March 15	
Maxwell, Amador co., Feb. 9, $1	March 13	April 1
North Amer. Wood P. Co., Jan. 15, $1	Feb 18	March 8 *
North Star, dividend, $5	Payable Aug. 15, 1868	
Oriental, Sierra co., Jan. 4, $2 50	Feb. 5	Feb. 20
Peninsula, Storey co., Dec. 15, $10	Feb. 11	March 6
Pacific Unassessable, div	Payable June 18, 1868	
Rattlesnake, Yuba co., Dec. 19, $7.50	Jan 21	Feb. 18 *
Rising Star, Idaho, Feb. 8, $6	March 31	April 3
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1	Payable Jan 5, 1869	
Savage, Virginia, Nev. dividend, $2 50	Payable Feb. 11, 1869	
Star Creek, Nev., Feb. 26, $1.50	March 29	April 19 *
Tallulah, Humboldt co., Dec. 14, $17.50	Jan. 29	Feb. 27
Virginia & G. H. Water Co., Dividend, payable Nov. 20, 1868		
Virginia, White Pine, Nov	Annual Meeting Feb 27	
Yellow Jacket, div., $5	Payable Feb. 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, February 26, 1869.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 83½	83¾
United States Bonds, 5 20s, 1864	83	84
United States Bonds, 5-20s, 1862	84	84½
Legal Tender Notes	76	76¾
California State Bonds, 7s, 1857	96	98
San Francisco Bonds, 10s, 1853	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1855	91	—
San Francisco City and Co. Bonds, 7s, 1862	85	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co. Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	30	31
Sacramento County Bonds, 6s	65	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	53	—
San Mateo County Bonds, 10s	75	80
California Steam Navigation Co	55	70
Spring Valley Water Co	—	69
State Telegraph Co	26	—
Gas Companies.		
San Francisco Gas Co	76	80
Sacramento Gas Co	85	—
Railroads.		
Sacramento Valley Railroad	—	45
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	71½	72
Central Railroad	50	—
North Beach and Mission Railroad	70	—
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	126	127
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1390	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	194½	200
Occidental Insurance Co	72	—
National Insurance Co	84	87
Builders' Insurance Co	—	—
Mining Stocks—Washoe District.		
Alpha	83	83½
Baltimore American	—	—
Belcher	30	30½
Bullion, O. H	20	21
Crown Point	72	72½
Cole (Va.)	10	11
Confidence	30	34
Consolidated Virginia	8	9
Chollar-Potosi	165	166
Daney	3	3½
Exchequer	25½	27
Empire Mill and Mining Co	80	83
Gould & Curry	104	105
Gold Hill Quartz	59	60
Hale & Norcross	73	73½
Imperial	109	110
Julia	3	4
Justice and Independent	15	15½
Kentuck	238	240
Lady Bryan	15	17
North American	12½	13
Ophir	41	41⅛
Overman	67	68
Segregated Belcher	11¾	12
Savage	57	57¾
Sierra Nevada	27	28
Yellow Jacket	71½	72
Union	—	—
United States	—	—
Miscellaneous Mining Stocks.		
Amador (California)	275	290
North Star (California)	—	—
Eureka (California)	230	—
De Soto (Humboldt)	—	2
Golden Rule, California	10	—

San Francisco Market Rates.

Wholesale Prices.

Friday, February 26, 1869.

Flour, Extra, ₱ bbl	$5 25	@$5 50
Do. Superfine	4 75	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 70	@ 1 75
Oats, ₱ 100 lbs	1 85	@ 2 25
Barley, ₱ 100 lbs	1 90	@ 2 25
Beans, ₱ 100 lbs	5 00	@ 7 00
Potatoes, ₱ 100 lbs	75	@ 90
Hay, ₱ ton	12 00	@20 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	11	@ 12
Sheep, on foot, ₱ lb	3 00	@ 3 25
Hogs, on foot, ₱ lb	5	@ 6
Hogs, dressed, ₱ lb	9	@ 10
Groceries, etc.		
Sugar, crushed, ₱ lb	—	@ 17
Do. China	10	@ 12
Coffee, Costa Rica, ₱ lb	—	@ 18
Do. Rio	16½	@ 17
Tea, Japan, ₱ lb	60	@ 90
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 48
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	40	@ 47½
Ishmus Butter, ₱ lb	40	@ 45
Cheese, California, ₱ lb	15	@ 20
Eggs, ₱ dozen	40	@ 1 25
Lard, ₱ lb	12	@ 13
Ham and Bacon, ₱ lb	13	@ 15
Shoulders, ₱ lb	6	@ 8
Retail Prices.		
Butter, California, fresh, ₱ lb	60	@ —
do. pickled, ₱ lb	50	@ —
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 42
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	50	@ 60
Lard, ₱ lb	15	@ 16
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	1 75	@ 1 50
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, ₱ lb	6	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	10	@ 12
Peaches, dried, ₱ lb	10	@ 12
Oranges, ₱ dozen	75	@ —
Lemons, ₱ dozen	75	@ —
Chickens, apiece	75	@ 75
Turkeys, ₱ lb	23	@ 25
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	18	@ —

San Francisco Metal Market.

Prices for Invoices.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, February 26, 1869.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¼@1½c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2¼a ₱ lb.

Scotch and English Pig Iron ₱ ton	$40 00	@$41 00
White Pig ₱ ton	36 00	@ 37 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Roller, No. 1 to 4	— 04½	@ — —
Plate, No. 5 to 9	— 04¾	@ — 04¾
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¼
Sheet, No. 24 to 27	— 05	@ — 6¼
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— 26	@ — —
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 36
Steel.—English Cast Steel, ₱ lb	— —	@ — 15
Quicksilver.—₱ lb	— 55	@ — 60
Lead.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9¼
Zinc.—Sheets, ₱ lb	— 10½	@ — 11
Borax.—California, ₱ lb	— 35	@ — 38

A. T. Dewey. W. B. Lyon.

THE BEST IN AMERICA.

The Mining and Scientific Press,

Is the Oldest and Best Mining and Mechanical Newspaper issued in the United States.

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SAVING PRECIOUS METALS

All progressive information, in fact, transpiring with the times—which cannot be obtained from books.

The Mining and Scientific Press is now in its Seventeenth Volume, and enjoys a large circulation. It received the following hearty endorsement of the California Miners' State Convention, held at Sacramento, January 17th, 1866:

Resolved, *That we regard a mining paper or journal of great importance to the mining interests of California and recommend the Mining and Scientific Press, of San Francisco, to the consideration and support of the miners of the Pacific coast.*

As an advertising medium throughout the whole Pacific States and Territories, the Press is unsurpassed. Rates moderate.

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Quarterly and Monthly Editions.

At the end of each quarter a large number of our weekly issues for the preceding three months are bound up in book form, which, by special arrangement, are placed upon the ferry boats and various steamers leaving San Francisco and other ports on the Pacific Coast, for free reading by the intelligent traveling public. The Quarterlies are also to be found in the principal libraries, depots, hotels, and free reading rooms of the Coast.

This, in addition to our Monthly Series and large weekly circulation, makes the Press the best and cheapest general advertising medium throughout the Pacific Coast. The value of advertising in our columns, however, is best determined by those who have tried it, and we respectfully refer to our patrons in that line. No paper in the United States can boast a better class, and no weekly paper on the Pacific Coast receives as large a sum for regular advertising, or has more constant or long-continued customers.

The best place to get every different variety of spectacles to be found in the market, is at C. Muller's, 205 Montgomery street, near Bush.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Markleeville *Miner*, Feb. 16th: The workmen in the Globe tunnel on Thursday night struck into quartz and sulphurets, with an increase of water; indication of near approach to the deposit sought, or a branch thereof.

The Mt. Bullion tunnel is now running in soft rock, and the Manager hopes to strike the first ledge of the series as soon as April next.

The Star shaft is now down 75 feet, and a drift will be run from about this point to the old workings at bottom of incline.

The Banner mining property, lying adjoining the Morning Star ground, has been disposed of in London, and the work of opening up the same is expected to commence in early spring.

AMADOR COUNTY.

Amador *Ledger*, Feb. 20th: Work on the Summit mine is being carried on with vigor, and the prospect is splendid. They are now taking out rock that pays $30 per ton.

CALAVERAS COUNTY.

Mokelumne Hill *Chronicle*, Feb. 20th: A recent clean up in the claim located on Buena Vista Hill, yielded at the rate of $25 per day to the hand. A number of companies in the same locality are doing exceedingly well.

The 30-stamp mill belonging to the Angels Quartz Co., has again commenced crushing. On the Bovee mine the shaft is been sunk to the depth of 300 feet. Times are lively in Angels.

The correspondent whom we mentioned in our last issue as "evidently writing from Railroad Flat," seems to think that we intended to convey the idea that he was writing in the particular interest of that place, and endeavors to correct us. We will simply state that we gave his item verbatim, as it appeared in the *Chronicle*, and headed it as being evidently written at Railroad Flat, as no other heading appeared, and no other locality was given other than the particular description of Railroad Flat as given in our items. We have always taken a lively interest in the mines of Railroad Flat, especially since the Petticoat, Chemisette, and Balmoral lodes have been located. Our correspondent adds: To show the *Press* that I am not writing in the particular interest of Railroad Flat, permit me to inform that most excellent journal that the favored locality of which I wrote so hopefully, is quite dull at present. The heavy storms and more especially the recent fall of snow, has nearly closed all active business. Even the famous Petticoat had to succumb to the hopeful and chilling influence of the Storm King, and until within a day or two past, the mill has been idle. It is now, however, crushing away.

EL DORADO COUNTY.

Placerville *Democrat*, Feb. 20th: Work was resumed a few weeks since on the Pacific mine, and a quantity of rock taken out and crushed, the result of which was so encouraging as to induce the proprietor to erect a new 10-stamp mill, which commenced crushing this week, and is doing good work. We were shown a sample of rock from the dump pile, by Mr. Stevens, which was liberally sprinkled with gold. There is a large quantity of this class of rock taken out, ready for crushing. The main shaft is 300 feet deep. At that depth there is a drift running north 130 feet, from which the rock is being taken. The ledge is from five to six feet wide, and improves rapidly.

The Epley quartz mine, situated in our immediate neighborhood, continues to yield handsomely. They are now down 240 feet, but at present are crushing rock from a depth of only 100 feet from the surface. The lead improves in richness as they go down. It now varies from two to eight feet in width, and pays on an average $20 per ton.

KERN COUNTY.

Havilah *Courier*, Feb. 16th: Hammer & Denker have struck a young White Pine in the Belmont mine, Washington district, about eight miles from Havilah. We have been shown specimens recently extracted from the Belmont of surpassing richness. It will pay probably $800 to the ton, though the average is not so large. This is a new discovery, the old lead having "pinched out." There are also some other valuable mines in the Washington district, among which we may mention the Kohinoor, Nos. 1, 2 and 3, and the Occidental.

NEVADA COUNTY.

Transcript, Feb. 17th: Berg & Co. have located and claim all the waters of Rush Creek below the Excelsior Canal Co's ditch, for mining purposes. They have also located 200 ft. of ground on the creek, commencing above the dam of Drum & Co.

Feb. 21st: Davis & Co. have located 2,000 ft. on the Imperial quartz ledge, located on Worthington's Ranch on the Grass Valley road.

The damage occasioned by the breaking of the reservoir of the South Yuba Canal Co. at Blue Tent is so far repaired that an abundance of water can be furnished for mining purposes.

Feb. 18th: The pleasant weather has been a blessing to the miners. They have now abundance of water and are working in good earnest. Many new claims have started up in the county since the late storm.

Gazette, Feb. 17th: Alexander and Andrew Berry have located two claims of 100 ft. each, for mining purposes, on Rush Creek, commencing 200 ft. above the dam of Drum & Co., and extending up the creek 200 ft., including the bed and banks of the creek. The same parties have filed notice of a location of all the water running in Rush Creek below the ditch of the Excelsior Canal Co.

Feb. 20th: Philip Dahle has just erected a 3-stamp quartz mill at Rough and Ready, which was started up this week. It is situated near the Bunker Hill ledge. It was built for the purpose of working this ledge, which is owned by Dahle & Ebelin, who are engaged in developing it. The ledge averages about 18 inches in width, and the rock ranges from $9 to $30 per ton.

A large slide occurred in the McCauley diggings, near Rough and Ready, during the late storm. Some two or three acres of ground, to the depth of eight or ten feet, slid off, carrying 30 or 40 rods of the Squirrel Creek ditch.

Feb. 22d: A new ditch to bring water from the Malakoff ditch to Nichols & Whiteside's diggings, was completed some time ago, and an extensive flume across a deep cut was finished on Saturday. This flume is about 250 ft. in length, and a portion of the trestle work is 75 ft. in hight. Fifteen men have been employed upon it for nearly five weeks. The Malakoff Co. have recently lined their flume with new blocks, preparatory to obtaining a larger supply of water. They are now running three pipes, but as soon as water comes more freely they will have more pipes and employ a much larger number of men.

Grass Valley *Union*, Feb. 16th: The snow being on the ground much outside prospecting has been stopped. The regular mines of Grass Valley, however, continue to turn out pay ore in quantities to suit owners. The Eureka will not pay the customary dividend this month because the company have bought the Roannaise ground and paid therefor about $45,000 in coin.

The North Star continues to take out rich rock, and the part of the ledge they are now in appears to be of miraculous richness.

In the lower part of the county there is considerable mining, and with prospects of success. The Scandanavian Co. have contracted that 500 tons of rock shall be taken out at $2.50 per ton. The company will immediately put up three arastras, to be run by water power, and the man who builds the arastras has such confidence in the lead that he also waits for his pay until the rock yields it.

The Red Jacket Gravel mine, near the same place, also shows well. They have, undoubtedly, the same lead as the Smartsville district, and many say it is as rich as the claims at Smartsville and Timbuctoo. The Red Jacket Co. start up in the spring with high hopes for big pay.

Feb. 17th: Yesterday morning Findley & Co. shipped to San Francisco about $26,000 worth of gold.

The Idaho Mining Co. day before yesterday brought in the sum of $16,000, the proceeds of two week's run.

The North Star made a clean up day before yesterday, of over $10,000. The rock coming out now is especially good.

The Young Pines ledge promises to be a good one. The men employed there have found a ledge which is clearly defined and shows free gold.

The rock in the Garden City mine is looking well. They are down about 60 ft., and have a well defined ledge in the bottom of the shaft, from eighteen inches to two feet thick.

Grass Valley *National*, Feb. 18th: The editor, after visiting the Frank Morso mine thus describes it: The quartz has changed to blue ribboned rock, and looks very favorable. We broke open a number of pieces on the dump pile and not only found the color but struck several rich specimens. The rock is rich in sulphurets, which are worth $150 per ton. They are down about 150 ft. on the incline, and have 175 loads out now ready for crushing. The last lot paid $51 per load, and that now being taken out is of better quality. The stamps will be started by about next Tuesday.... The North Star continues to yield excellent rock which will average $30 per ton, although some of it is much richer. The mill runs 30 stamps, and 10 of Hendy's concentrators are in use for saving the sulphurets.... At the Shanghai a whipsidary is at work and some very good rock is being taken out. We had no difficulty in finding specimens of free gold on the dump. They will have a crushing before long. They have out about 18 or 20 loads.... With the exception of the above mine, everything looks quiet and deserted on Massachusetts Hill and vicinity which a few years ago so teemed with life and activity. There is yet abundance of gold, but disagreements between companies have prevented concert of action and hardness of the rock and the immense expense of pumping deter any single company.

A San Francisco company have located a ledge on Kate Hayes Hill, which is to be called the Crescent, and will commence work immediately.

EXCELSIOR.—*Transcript*, Feb. 21st: We learn that the Mohawk and Montreal Co. have struck a very rich ledge over four feet wide. The ledge was struck in the lower level, near the mill, on the 15th inst. The owners now consider that the permanency of their ledge is established.

Virginia *Enterprise*, Feb. 17th: Meadow Lake is pretty much deserted. The snow is about eight or ten feet deep. But little work in the way of mining is being done in Excelsior district.

PLACER COUNTY.

Auburn *Stars and Stripes*, Feb. 18th: W. H. Puffer informs us that a crushing of about 60 tons of rock from the Jenny Lind ledge, just made, yielded in free gold $30 per ton. It is estimated that the sulphurets will pay $500 per ton. This ledge is situated on Dutch Ravine, about one mile below Newcastle. It is believed that there are many ledges in the vicinity of Newcastle that will pay equally well.

SISKIYOU COUNTY.

Yreka *Union*, Feb. 13th: The miners on Humbug Creek are laying on their oars, at present, as the ground they sluiced off last year has been washed up and there has not been water enough yet this winter to enable them to commence ground sluicing again. The principal mining on this stream now is in deep flats or high banks, where it is necessary to remove an immense amount of dirt, requiring a large body of water to do it successfully and profitably.

Mining on McAdams Creek has been more successful during the past year than it has been for several seasons previous. Nearly all the claims worked have turned out well and some of them largely.

The Etna Mining Co. has not been doing anything in their claim for some weeks past, on account of the scarcity of water.

The claims in the Klamath river, near Cottonwood, did not do as well during the year as it was supposed they would.

Lash & Co. have now been running their tunnel on the Accidental, which is intended to strike the ledge 100 ft. below the surface, for three weeks, and have got in a little over 100 ft. They have still some 60 or 70 ft. to run. They are at the same time taking out quartz at a higher level—about 40 ft. from the surface. At this level they have extended along the ledge a distance of about 100 ft. and find that it averages in thickness about 2¼ ft.

Haislip's new diggings on the East Fork of Scott River, prospect well, and from present indications bid fair to prove the richest mines yet discovered on the headwaters of Scott River. Duffy & Co. last week picked up a piece of pure gold in their claim valued at $37, which is proof conclusive that coarse as well as fine gold abounds in these new diggings. A number of new claims are being opened with every prospect of striking as good pay as has been found in either Duffy & Co's or Magill's claims. There is an extensive country on East Fork that has not been prospected.

TRINITY COUNTY.

Weaverville *Journal*, Feb. 20th: Sutherlin, McMurry & Hupp, in Weaver Basin, are running a cut at almost right angles with the line of their flume to the low flat along East Weaver Creek. They expect to run across to the creek this winter, and will then have an opening of a 1,000 ft. face upon the pay streak, with a mile of bedrock ditch and flume.

Fox & Fox at Lewiston, are making their claim on the hill, back of town, pay well. P. Cronin & Co. are still working a low water claim on Jackson's Bar. Squire Musser, in the Frank Woods claim, has found a channel in the hill that has so far paid him $7 or $8 a day to the haud, in coarse gold, picked up while sluicing.

The miners on lower Trinity are complaining of the scarcity of water. Shaber & Co. are making from $110 to $150 per week.

The miners at Minersville are pushing ahead as energetically as the supply of water will permit. A few days ago John Weeden picked up an 8-oz. piece of gold on Mule Creek. Excellent prospects are obtained on Buckeye.

A telegram from Trinity Center dated Feb. 22d, says: A miner named Weeden, at Minersville, within the past week, has taken out over $5,000 in coarse gold—some of the nuggets weighing eight ounces. The ground worked is not over 20 ft. square. In consequence of this rich strike, considerable excitement has been occasioned and several companies are preparing to open claims in that vicinity.

(A later despatch confirms the report above given.—EDS. PRESS.)

ARIZONA.

Prescott *Miner*, Jan. 30th: Mr. Borger has completed his working tests of the Sterling mine. He has proven that the ores of the Sterling can be worked successfully by chlorination; that they are rich enough to pay exceedingly well, and, also, that the Sterling is a mine. A contract for tunneling 50 feet more into the mine has been let.

The Eureka mill, Walker's district, was running on Plymouth and Box Elder rock, Wednesday last, and from the looks of the plates and batteries, the rock was paying.

At Black Cañon, Big Bug, Lower Lynx Creek, the Placeritas, and on the Upper Hassayampa, the placer miners are working away, and doing well.

A party who recently arrived from Bradshaw mining district, brings highly encouraging news concerning the mines in Black Cañon Creek. Three of the seven companies now at work there were sluicing when the party left the creek, and making from $8 to $12 per day to the man. The other companies were cutting ditches, making sluices, and otherwise preparing for work. The bar owned by Behman & Co., is on the south side of the river, about one mile below Montezuma Bar. Before coming here, the company prospected it thoroughly, and Behman informed us that he would not hoard a man who could not make $10 a day in it. We saw several prospects which he had carefully kept separate—the poorest of which was 18 cents out of two pans. There is one channel in the bar, the dirt of which prospects 40 cents to the pan.

Jackson, Lovejoy & Co., at Lower Lynx Creek are piping away.

The companies engaged in mining in Big Bug district, are making from $5 to $10 per day to the man; those on the Hassayampa are also doing well.

At the Placeritas, near Walnut Grove, at Weaver, and near the Vulture mine, placer mining is being carried on, and those engaged in the business have been and are doing well.

About 20 tons of refuse rock has been crushed at the Eureka mill, on Lynx Creek but owing to the intense cold, which prevented amalgamation, they were unable to get the gold together.

Work on the Chase tunnel is steadily progressing, and the mine is growing wider.

BRITISH COLUMBIA.

The Victoria *Colonist* gives the following: The new mines at Suqwash, near the northern extremity of the island, are being rapidly opened. The Nanaimo Packet reports that the Superintendent, with his gang of laborers, has driven a tunnel some distance into the side of the hill, and that the coal ranks in quality with the best heretofore discovered on this island.

The indications of a "rush" to the Kootenay diggings are so favorable on the American side that two Oregon drovers are preparing to drive in 2,000 head of cattle for the supply of the gold-seekers.

COLORADO.

Central City *Herald*, Jan. 13th: The Whitcomb mill, Nevada, is now running on better ore than at any time since 1860, from the Forks lode. Its 12 stamps are constantly busy....Col. Tannett is now running 20 stamps of the Rocky Mountain Co's new 30-stamper on Bates ore. The ore vein has somewhat improved of late ...A quartz mill is being put up on Fall river with a view to crushing ore from Russell and Nevada.

We have the following from Nevada district: Wheeler & Vanderen have a 14-inch vein of galena in the bottom of their mine. Besides this, the mine is yielding a large

quantity of ore which is being crushed at the new Beverly & Koonce mill. It pays very well. The galena is about as pure as any we ever saw. Specimens will yield as high as 75 per cent., and an average of the galeaa vein will go as high as 60 per cent. We saw some remarkable cubes of lead this morning, which surpass anything of the kind we have ever seen, for size and singularity of shape.

A. M. Jones has got through the cap on the Hidden Treasure, which is situated near the Forks. He has struck a large body of very rich ore. It is thought to be the same as the California lode.

B. C. Waterman sold his last lot of first class ore to Prof. Hill for $172 per ton. He is building a new mill in Eureka, which will be ready to start up next week. It will have 15 stamps.

A consolidation has been effected recently, of the Ophir, Gilpin and the First National property, on the Burroughs lode, making 602 ft.

Same, Jan. 27th: From Clear Creek we have the following items: Rockwell has struck mineral in the Gilpin lode similar to that found in the McClellan.... The Equator has recently opened up better than ever.... The Mendota has now a two-foot crevice of solid mineral, worth from $100 to $800 per ton by fire assay.

The Terrible tunnel is now over 50 feet long, pregressing favorable. In the shaft 150 feet deep they have a wider vein and better ore than ever before. They have about 25 tons of assorted ore in the shaft house, worth $1,000 per ton.... The Brown, Coin, Lilly, Elgin, Quaker, Emmet, Benton and other lodes on Brown and Sherman mountains are being worked with satisfactory results. A large per cent. of galena is being found in the Brown, where they are now working.... At the Brown works the cupol furnace started up yesterday.... Huependen, Wolters & Co. will soon be ready to start three new cylinders.

Central City *Register*, Jan. 28th: We have been presented by Stanley & Stalker, with a beautiful specimen of arborescent native copper. It was taken from their claims on the California lode, Nevada district, and is one of the best Colorado specimens of native copper that we have ever received. The rock which carries this metal appears, from a casual examination, to be quite rich in silver.

Work has been shut down on the Bobtail mine, owing to insufficient means for pumping out the water.

A one-third interest in the Cliff lode at Georgetown was recently sold for $1,500.

From Sugar Loaf district we have the following: The Hoosier mine is looking very well—better than usual. The shaft is now 125 ft. deep, and in the bottom they have ore the whole width of the shaft. A cross cut has been started from the bottom towards the west wall, and they have good ore in that as far as they have gone. A level has also been started north from the shaft in which they have ore the whole width. The other mines in the district are nearly all idle at present, and but little prospecting is being done. Ward district is quite dull, the Ni-Wot mill and mine both being at present shut down. The Long's Peak mill is doing a little work on surface ores. The Hoosier mill was running one pan only on rich ores, but it was expected that one more Hepburn, and one Blatchley pan would be started in a few days. They have a good supply of rich ore out, and a very large amount is in sight in the mine that can be taken out as fast as it is wanted.

Denver *News*, Feb. 3d: A party just come down from Granite district, gives us the followiug: The Treasury Mining Co. are running their mill, 15 stamps, and crushing 2¼ cords of ore per 24 hours. The ore is from the Magenta lode, on which the shaft is now 120 ft. deep. It yields $95 per cord.... Partridge & Morrison's 9-stamp mill, has just finished a run of 2½ cords of ore from the Jessie Johnson lode. It was supposed the yield would not be less than $150 per cord. The ore was taken from a shaft 40 ft. deep.... Work is being done in a number of lodes, and considerable prospecting is being done, resulting in many valuable discoveries.

IDAHO.

Owyhee *Avalanche*, Feb. 6th: We were this week shown a large specimen from the Baxter mine, one of the handsomest we have ever seen; it is very rich in sulphurets of silver. The shaft is now down to a depth of 190 feet, and the lode is growing wider as it goes down. The pay streak, out of which this specimen was extracted, ranges from 18 inches to two feet in width.

New and rich deposits have been struck lately in the Poorman and in the Rising Star at Flint.

The Ida Elmore mill will suspend operations for a few days, in a day or two, for the purpose of making some alteration about the mill as well as the mine. The mine looks splendidly, and the ore is as rich and abundant as ever. They propose to sink the south shaft to a considerable depth before forming a new level; after which the mine will continue to furnish its accustomed flow of bullion.

The total amount of bullion assayed in Owyhee County during the month of January was $115,803.39.

Silver City *Tidal Wave*, Feb. 9th: Black's mill is running on Pickens & Edward's ore; a fine yield is anticipated.

Dalles *Mountaineer*, Feb. 12th: The quartz mills at Warren's Diggings have been running nearly all the winter and have been paying quite well. The placer miners have been able to continue their work all through the winter. The new quartz mill lately put in operation at Florence, crushing rock from the Davis lead, has been paying well.

Silver City *Tidal Wave*, Feb. 16th: The Poorman is now yielding ore that in quantity and quality is fully up to the standard of the famous mine in its palmiest days. Large quantities of ore are being taken from the level, 200 feet from the bottom of the main shaft, which is 300 feet deep. The rich vein matter in which gold predominates, is from two to four feet wide.

A force of 70 men is now employed at the Golden Chariot mine, and large quantities of glittering ore are being brought to the surface. The deeper and more extensive the mine is worked, the better does its immense richness become evident.

We have recently been shown several pieces of gold-bearing quartz of marvelous richness, from Peck & Porter's mine. The ore is similar in appearance to that of the Golden Chariot and Ida Elmore.

L. W. Greenwell is engaged in developing another mine immediately south of Peck & Porter's claim, on the same lode. Encouraging prospects are obtained.

Operations have been resumed on the Minnesota. The north shaft is now down 80 feet on the vein, which is yielding quartz that will doubtless pay largely for working.

MONTANA.

Helena *Post*, Jan. 29th: John Potter yesterday concluded the purchase of 200 feet on the Park quartz lode. The price paid we did not learn. Mr. Potter will immediately proceed in the development of his interest, and place sufficient quartz on the surface to commence.

The 12 mile ditch which is to carry all the water of McClellan's Creek into Upton's Bar and Maguire's Gulch, is now nearly completed. Six hydraulics will be in operation on Upton's Bar and Maguire's Gulch early in the spring.

A shaft has been sunk on discovery claim of the 10-Mile Mining Co., some 23 feet, and a gravel has been reached which contains gold to the prospect of ten cents to the pan. The gold is of a coarse nature.

William Nolan arrived last night from Cable City, bringing with him 329 ounces of gold retort, which amounted to nearly $8,000 in currency, being the result of one week's run of the Nolan mill. This mill is at present engaged on another run. The Hauer mill will probably be started in a few days. McCartney started for Cable this morning to provide means for a speedy delivery of quartz at this mill.

The Deer Lodge *Independent* has the following: Prof. Swallow's mill is now operating on quartz from the Nevin's lode. The mill is in fine condition and doing well. It constantly improves in condition.

The Pittsburg & Montana Mining Co's quartz mill at Georgetown has changed hands. We understand that active operations will at once commence, which will keep this mill actively employed.

NEVADA.

RUMBOLDT.

Unionville *Register*, Feb. 6th: Fall & Co. shipped this week, per Wells, Fargo & Co's Express, 1,500 ounces of fine bullion.

The Winnemucca correspondent writes: There are four companies at work in this district—the Wearmouth, Stars and Stripes, Accident and Pride of the Mountain. The Wearmouth Co. are now at work clearing out an old tunnel which had been run to the ledge some three years ago, which is about 150 feet in length, and opens the ledge 60 or 75 feet from the surface. Below this another tunnel has been started, which will cut the ledge 50 feet lower. A shaft will then be raised to the upper tunnel, and from that to the surface, which will thoroughly ventilate the mine and at the same time determine the value of the ledge. The company intend to thoroughly open the mine this winter, and build a mill in the spring, unless satisfactory arrangements can be made for shipping the ore to Swansea. One interest in this mine was sold last week to Dr. Hutchins, for $1,000.

The vein in the Accident mine is rather small, but is said to be exceedingly rich. A tunnel is in 60 feet, at the end of which the vein in the ledge is 15 inches wide, with ore that is said to assay as high as $800.

The Stars and Stripes, or Union Series, which consists of six ledges, is owned by a New York Company. This mine is more thoroughly opened than any in the district.

The Pride of the Mountain mine may be considered the "Eberhardt" of the district. It is owned by Buck & Kunkel, who are now taking out and sacking ore from three different tunnels, on which they readily get an advance of 50 per cent. of the pulp assay delivered on the platform of the freight depot at this place.

There are a number of ledges in this district, aside from those mentioned above, which will in all probability be worked this coming summer. Among the richest of them are the Grant, World, Ledi, High Star and Last Chance.

REESE RIVER.

Austin *Reveille*, Feb. 11th: Six bars of bullion, the product of ore from Leon & Co's El Dorado South in the district of Silver Bend, were brought to this city last evening.

The Manhattan mill closed on Saturday and will remain closed for several weeks. Cause, want of ore.

Feb. 12th: The stage which arrived from Belmont last evening brought into this city seven bars of bullion, the product of Leon & Co's El Dorado South.

The first consignment of bullion from Austin across the continent to New York city was made this morning by the First National Bank in this city through Wells, Fargo & Co. The shipment comprised seven bars produced from the ore of Leon & Co's El Dorado South, in Silver Bend district.

Feb. 13th: The second consignment of seven bars of bullion overland to New York city, through Wells, Fargo & Co., was made to-day by the First National Bank in this city. The bullion is the product of the El Dorado South mine in Silver Bend district.

Feb. 16th: We are informed by good authority that on Thursday last the vein of the Buel North Star of the Lane and Fuller Co., was uncovered of the great width of five feet, and that it contains a stratum of ore ten to twelve inches thick that is worth from $450 to $500 per ton, as shown by assays, and that the remainder of the vein will pay at the rate of $100 to $150 per ton.

We mentioned the other day the finding of a large and beautiful crystal of polybasite in the Buel North Star mine in Lander hill; and we saw yesterday in the cabinet in Boalt & Stetefeldt's office four fine specimens of tetrahedrite—argentiferous grey copper ore, or silver fahlerz, which were obtained from the same mine. These pretty, three-cornered crystals are called pseudo-morphous, being covered by a very light incrustation of copper pyrites, of fine yellow hue, closely resembling native gold, and very attractive to the eye of the novice.

Feb. 17th: By the stage which arrived from White Pine this morning six bars of bullion, weighing 592 pounds, consigned to the Bank of California, were brought into this city.

Belmont *Champion*, Feb. 13th: The mill of the Belmoot Co., last week finished a six-week's run on ore from Leon & Co's El Dorado South, and "cleaned up" on the 7th instant. The run comprised 343 tons of ore, which yielded 58 bars of bullion, weighing 53,605 ounces. The product of the ore is about $50,000.

WASHOE.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Feb. 13th: We are informed that the Belcher Mining Co. have cut into a body of ore assaying $90 per ton, between their 300 and 400 foot levels. The deposit is said to be over 12 feet wide in places.

The total shipment of bullion from this city, last week, was but 3,025 pounds, valued at $89,423 86.

The Justice & Independent Mining Co., have started up again in good shape. They have two powerful engines and two new 11-inch pumps, capable of throwing 25,000 gallons per hour. The shaft has been pumped out and repaired to the bottom, a depth of 380 feet. The company now have in sight a large quantity of ore which will pay very well for crushing at the prices charged by the mills at the present time.

The new Ophir shaft is now down to a depth of 700 feet, at which point preparations are being made to start a drift. Workmen have been engaged for two or three days past in cutting out a station from which to open the drift, and drifting will be commenced as soon as this work is completed. The whole depth of this work is 725 feet, but the 25 feet below the station is counted as "sump." The company claim to have a front ledge, and one object in running the present drift doubtless is to ascertain if there be such a ledge.

WHITE PINE.

Austin *Reveille*, Feb. 8th: The stage which arrived in this city yesterday from White Pine brought five bars of bullion from one of the mills of that district.

Feb. 13th: A passenger who arrived in this city this morning from White Pine informs us that a severe storm prevailed in that district for two days previous to the departure of the stage, but that the snow was not deeper than it was in this city. The snow was preceeded by terrific wind.

Feb. 15th: The stage which arrived in this city from White Pine this morning brought five bars of bullion from one of the mills in that district.

A correspondent writes to the Virginia *Enterprise*, under date of Feb. 4th, as follows in answer to the question "Shall I come out?" put by a friend in this city: "If you could have the least idea of how matters stand here, you would not ask. Just imagine the wind blowing a perfect hurricane, the thermometer 10 degrees below zero and a dense fog that you can hardly breathe enveloping this city, and you will have some idea of a day on Treasure Hill. Add to this a place overcrowded with people, with no other occupation than standing around whisky-shops drinking whiskey—as the snow is so deep no prospecting can be done—and you have some idea of White Pine at the present season.

A correspondent writing to the Nevada *Gazette*, under date of Feb. 9th, says: The exceeding richness of some of the ore here is beyond question, and capitalists are investing in both mine and real estate freely, and paying prices for both that I do not think the prospects will justify. Most of the purchases of mines are made by speculators or stock gamblers, who are willing to take any risk, being, as a general thing, so situated that they can evade any loss that may be incurred, and at the same time reap their portion of any profit that may accrue. Some of the mineral deposits on Treasure Hill are of immense richness; but from my observation all the ore is found in 'beds or "pockets," there being apparently no fissure veins, although the deposits on Chloride Flat would approximate nearer to such than anything I have seen if the upheaval of the hill had left the strata of limestone standing at an angle of 30 to 40 degrees, instead of horizontal or flat, as it is. This hill I look upon as more favorable to the laboring man than any quartz district I have seen, from the fact that he can go to work with his own hands, and by sinking 15 or 20 ft. have as good a chance as any capitalists of striking rich ore, from which he may make a snug raise.

NEW MEXICO.

A correspondent writing from La Mesilla, New Mexico, to the New York *Tribune*, under date of Nov. 23d, 1868, says: Considerable excitement has been manifested here, lately, owing to the reports of the discovery of rich silver mines in San Andreas Cañon, about 40 miles from this place. The discoverer, a poor Mexican living in Las Cruces, accidentlly found the lode, and sank a shaft to the depth of 20 feet. On two or three occasions he has gone out there alone, and after an absence of several days, he has returned with his small native donkey loaded with about 300 pounds of ore. This ore was bought either by Lesinsky & Co., or Louis Roseuhaum; but, until within a very few days, the exact locality of the lode was unknown. On the 17th inst. a party left here to prospect San Aodreas Cañon. They returned yesterday, and report the discovery of silver lodes of fabulous wealth and magnitude. There is one lode of some 50 feet in width, which can be distinctly traced for several miles by the eye. The blossom rock which lies on the surface, and marks the direction of the lode, is pure quartz, and contains silver and lead in large and plainly visible quantities. Three hundred pounds of the ore, taken indiscriminately from the bottom of the shaft, have been assayed, and prove that the ore will yield $1,700 to the ton.

OREGON.

Dalles *Mountaineer*, Feb. 12th: A small party of prospectors left a few days ago for some place across the river, said to be about 12 or 14 miles from here, where it is said they have discovered placer gold diggings.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, Feb. 27, 1869.

Notices to Correspondents.

IBERIA.—The chemical powers, as they are usually termed, of the voltaic pile, were first observed in association with the decomposition of water and certain saline solutions, by Messrs. Nicholson & Carlisle, in the year 1800. They were afterwarde more accurately investigated by Haisinger & Berzelius; and in 1807 Sir H. Davy communicated his celebrated lecture "on some chemical agencies of electricity" to the Royal Society, in which the electro-chemical powers of the pile were more minutely explained, and formed the basie of those brilliant discoveries with which he subsequently startled the ecientific world. It remained, however, for the late illustrious Farraday to explain much that had been left incomplete by former experimentere.

GOLD PEN.—Iridium and oemium were discovered by Smithson Tennant, a native of Yorkshire, England; a gentleman of moderate fortnne, but of great talent, amiahility and worth. Liks his great conntryman Cavendish; he was an exact experimenter, and also somewhat retiring. His experiments on the identity of the composition of the diamond and charcoal (1796) still remain models for eleganee and exactness.

THUNDER.—When a tree is struck by lightning, it often happens that it becomes nearly oompletely barked. Thie phenomenon is owing to the electricity taking that direction which forms the best conductor; which, when sap and moisture exist, is between the bark and the wood. The bark so stripped is sometimes found curiously spread round the tree in the form of a circle.

LIGNUM, Nevada.—Wood conducts heat much better with the grain than across it, that is better in a direction parallel with the fihers than across them. Dr. Tyndall hae not only confirmed this fact, but hns also proved that heat passes rather more rapid in a direction from the external surface towards the center than it does in the direction parallel with the ligneous rings.

B. S., Graes Valley.—It is not in all cases indispensably necessary that liquefaction should take place preliminary to crystallization, the depesition of a solid from the gaseons state sometimes tnkes place in crystalline forms. Iodine, nrsenious acid, sulphur, iodide of mercury, and camphor afford familiar illustratione of this fact.

BOILER.—With water and dilnte solutions generally, fluidity is accelerated through minute tubes, with increase of temperature. Water, for instance, at 113° Fah., has been found to escape through a tube 2¼ times as quickly as it did at 41° Fah.

RETURNING.—Wenre pleased to state that our W. B. Ewer, A. M., and his worthy family, left New York on the steamer of February 9th, and friends may anticipate their arrival in Snn Francisco next week, after an absence of six months.

The Petaluma Mastodon---Tertiary and Post-Tertiary Geology in California.

The ekeleton of the mastodon, discovered on Petaluma Creek by Messrs. Dickley and Gilmore, projected from a bank where the late storm had washed the dirt away. The tusk measures twenty-two inches in circumference, and the width of the skull is is nearly three feet.

A list of other localities in this State where the remains of the mastodon have been found, has been made out by Dr. L. G. Yates of Centervills, Alameda County, and will shortly be presented to the Academy of Sciences. The mastodon is not a rarity by any means in this State; though there are few well preserved specimens in existence, from the fact that the discoverers usually do not take the necessary steps to prevent them from crumbling to pieces. Specimens of the kind are frequently held at an extravagant price while they continue to be a novelty, and are then put aside and allowed to become worthless even to the finders. Their only value is to complete the fossil collections made by a few persone in this State who take an intereet in the study of paleontology. For any other purpose a mastodon bone is a piece of dead property. The best thing to be done with fossils alwaye, is to make a present of them to some geologist or amateur collector, who is able to appreciate them for what they may signify.

There are eeveral species of the elephant kind, found nearly everywhere over North America, from the Gulf of Mexico to Behrings Straits: *E. Americanus, E. primogenius*, together with the mastodon *giganteus* especially, the latter being found most abundantly over the northern half of the United States—representing the post-Pliocene age. This is the newest or fourth subdivision of the Tertiary, or modern period—of the Mammalian Age—heing eeparated like the Eocene, Miocene, and Pliocene subdivisions, by evident natural records left in the rocks all over the world. The mastodon in California marks the end of this Mammalian era, in which the nnimal kingdom, apart from man, may be said to have culminated, "for,"—says Dana—"the system then reached the highest grade of development presented hy the merely animal type, and brute passion had its fulleet display. Iu the era now opening, the animal element is no longer dominant, but Mind, in the possession of a being at the head of the kingdoms of life; nnd the era bears the impress of its exalted characteristic eveu iu the emaller eize of its beasts of prey."

In the bones of the mnstodon, geology records distinctly, in California, the origin and oomparative position in creation, of the human epecies. They have beeu found rspeatedly with marks of fire, and in association with implements of human manufacture, as well as with human bones—in the deep placer or gravel mines of post-Pliocene or "post-Tertiary" age in the foothills.

The post-Tertiary period had eeveral distinct features, marking so many subdivisions in it. These were: 1, The Glacial epoch, when, as Dana supposes, the monntains of the crust of the earth in northern parts at least, were elevated some thousands of feet, into colder regions, which created streams of ice everywhere like those of the Alps and of Alaska, the evidences of which are so universal to this day, and dug out the fiords of the northwest coast, etc. 2, The Champlain epoch, or epoch of river border and lake border formations, evidenced by lake, river, and ocean terraces, from Maine to California, and accounted for by a subeidence, again, of the crust, to its former position, euch as would enable the material of the terraces to be deposited under wnter. 3, The Terrace epoch, when the crust of the entiro contineut again rose slightly, and the terraces mentioned were carved by the rivers and lakes into their present shapes; a mnrked feature of the epoch being that there was an increase in the amount of elevation towards the north; as the terraces of Fraser River nre higher than they are at Humboldt Bay or farther south, the elevated sea beaches of the Arctic are higher than those of the St. Lawrence and of the New Englaud shores, and the upper terraces of the grent lakes higher than those south of the Ohio. 4, In the California gold mining eection in particular, and west of the Rocky Mountains in general, the *Volcanic* epoch, when the mountain river channels, ecooped out, and filled up again in one or another of the preceding periods not vary exactly defined, with auriferous gravel—a part of which, from its quantity, must have been formed during the Glacial period, and was perhaps dammed up and deposited to the remarkable depths disclosed in hydraulic mining during the eubsidence of the Champlain epoch—were overflown with streams of lava from Shasta, Lassen's and Downieville peaks, and the numerous other "sugar loafs" and volcanoes along the Sierra Nevada.

This lava period marks the end of mastodon life on this coast. All ths mnmmal species that lived up to the Volcanic epoch, the horses, buffaloes, tapirs, and the proboscis kinds, became extinct; while the oysters and shells of the sea outlived them, and are the same in the hills as those inhahiting the watere to-day. Moreover, mau outlived them,—hut not necesearily the Californian of that day. The great eruptions that created our highest mountain peaks, and covered the ancient river channels with lava and trachytie cement, were witnessed by human eyes, as was even the formation, perhaps thousands of years before, of the gravel deposits themselves, which succeeded the Glacial epoch. But at a time when all other living mammalia in this country appear to have bscome extinct, in the order and manner of nature as witnessed in geology, it is not impossihle that nearly entire races of mankind also may have besn forced to euccumh to like vicissitudes.

According to Dana'e calculations of relative time,—the only kind practicable nfter all between two eternities,—deduced from the thickness of observed geological deposits, the duration of the seveml ages of the Mollusks (Palæozoic) of Reptilee (Mesozoic) and of Mammals (Cenozoic or Tertiary) were 14 : 4: 3: thus bringing the history of the rocks down to the age of man; the duration, in the last mentioned, of the Tertiary propsr to the post-Tertiary, being 2 : 1.

We cannot do better than to quote from Dana in regard to the significance of the history of the Tertiary, and post-Tertiary periods,—the geology of which is applicable and interesting especially to man:

In the Tertiary, there was (1) the finishing of the rocky substratum of the continents; (2) the expansion of the continental areas to their full limits, or their permanent recovery from the waters of the oceans; (3) the elevation of many of the grent mountains of the glohe, or considerahle portions of them, through a large part of their hight, as the Alps, Pyrenees, Apennines, Himnlayas, Andes, Rocky Mountains, the loftiest chains of the globe,—a result not finally completed until the latter part of the Tertiary. In North America there occurred a small extension of the continent on the Atlantic and Gulf horders; n vast increase west of the Mississippi; a small rising of the land on the east and south, an elevation of 6,000 to 7,000 fe t in the Rocky Mountains (nearly the whole hight of the mass) and 2,000 feet or moro on the Pacific border.

In the post-Tertiary, the great events, in America at least, were (1) the excavntions of valleys over the lifted mountains and plains, and the shaping of the lofty eummits; (2) the distribution of earth and gravel, covering and leveling the rugged surface of the earth, laying the foundation of prairies, and filling the broad valleys with alluvium; (3) the finishing of the valleys and lake borders with a series of plains or terraces, aud the extension of flats along the sea,—a work completed in the age of Man. The excavation of valleys by running water began with the first appearance of dry land, and increased with ite extent. But the greatest augmentation took place after the lofty mountains had risen in ths course of the Tertiary period. The great gorges and cañons over a large part of the Rocky Mountains helow a level of 6,000 or 7,000 feet, and most of the deep channels occupied by rivers in other regions, then had their beginning.

There were great oscillations of level in the post-Tertiary as well as Tertiary; but (1) the post-Tertiary were mainly *high-latitude oscillations*, being most prominent over the colder latitudes of the globe, the cold, temperate and Arctic; (2) they were movements of the broad areas of the continents; (3) they brought no mountain ranges into existence.

Great rivers, glaciers, and icebergs were especially characteristic forcee of the post-Tertiary; and the ice accomplished what wae impossihle for the ocean. In no other period of geological history have eo large masses of stone moved over the earth's surface as in the Glacial and later epochs.

These post-Tertiary agencies were active everywhere over the continents, putting the finishing strokee to the nearly completed globe. There was a development of beauty as well as utility in all theee later movements. Those conditions and special snrface details were developed that were most essential to the pastoral, agricultural, and intellectual pursuits which were to commence with the next age.

This Petaluma mastodon helongs probably to the post-Tertiary deposit made up of beds of gravel, eand, clay and oyster shells, which rests nearly horizontnlly upon the upturned edgee of the Cretaceoue rocke, around Vallejo; at Bottle Hill, near Benicia; between Martinez and Bull's Head Point; on San Pahlo Bay between Point Pinole and the Emharcadero; on the San Rafael and Tomalee road, north of Tamalpais, and at numerous other localities arounnd the Bay of San Francisco. "The Valley of Petaluma"—eays Whitney—"extends through to the Ruesian River, is in the direct line with the Tertiary strata of the Contra Costa Hills, and is probahly an excavation in that belt, with metamorphic cretaceous and eruptive rocks on hoth sides."

THE AUSTIN REVEILLE is impatient on White Pine topics, and furnishes its readere with many a sarcastic article, the motive of which is amueingly apparent to outsiders. Out of a brief paragraph, in which we attempted to state merely a legal point at White Pine, it picks a eentence (inadvertently quoted) which makee ue responsible for the statement that Chloride Flat "has a stratum of rich ore, say a hundred feet deep." Ae it was evident from the connection that the word stratum was used in the sense of belt or zone, and merely a eupposed case at that, we are eorry that the *Reveille* could see in it only a "flat description" of that overrated conntry, which, thinks the *Reveille*, "may be appreciated ae n vnluable euggestion rsspscting the mining geology of White Pine, and so on."

A STUNNING METEORIO EXPLOSON took place near Bald Hills, at the head of Roaring River, Shasta Conuty, on the 5th inst. The Shasta *Courier* reports that the earth was felt to tremble and vibrate for several seconds after the explosion, nnd a flash of yellowish light illuminnted everything around. While the eounds were etill reverberating, an immense hall of blazing fire fell with great velocity to the earth, producing a shock. For several minutes after falling, the air was strongly impregnnted with a peculiar odor resembling that caused by heat generated by friction in heavy machinery.

QUICKSILVER NEAR VALLEJO.—The reports referred to in the PRESS, some time since, of a quicksilver discovery near Vallejo, nre repeated. The lead is a few miles northeast of Vnllejo, and tho owner of the land has sold a half interest in the vein for $1,000. The discoverer was Mr. J. D. Neate, who has been quarrying for the Benicia Cemeut Works.

Hafenegger Explosive Powder—Powerful Blasting.

The principal testa yot made with this new explosive componnd, took place jnst beyond Fort Point, on Friday of last week. Something liko a month since it was annonnced that this trial would take placo, bnt the timo appointed proved nnpropitions, owing to the high sea prevailing and washing over the rock.

THE FIRST BLAST.

The first rock blasted was round in form, about 35 feot diameter and 25 feet in hight, in its greatest dimensions. In this rock a 1¼-inch hole was drilled to the depth of 9 foet, and charged with 5 pounds of No. 2 (or what is termod weak) powder. The explosion was not a loud one, and the debris was not thrown in quantity to any great hight, or distance, but the exeention in the rock was remarkable, it being broken in overy direction from top to bottom.

SECOND BLAST.

The second and most powerful blast was fired in a rock near 40 feet in length, 25 fect high and 20 wide—irregnlar. It rested in a bed of sand, and the tide washed entirely around it. We wore present and saw the blast prepared in the early part of the day. The hole, 1¼-inch diameter and 10 feet dcep, drilled weeks before, had filled with water from the pouring of the surf over the entire rock. The wator being entirely swabbed out, a 1¼-inch cartridge several feet long was inserted containing the strong, or No. 1, powder. Into this, by means of a funnel and tube, was ponred the liquid which renders the dry powder explosive. Top of this was placed a small charge of the weak powder, which, by the power of its concussion, breaks the cartridge containing the strong powder, and exposes it to the fire which ignites the strong powder. No tamping was used. A redwood plug was inserted, grooved on one side to admit the common safety fuse used to explode powder No. 2. The charge was placed in about the center of the rock, the body of which is composed of hard cretaceons sandstone, bound partly by quartz. Notwithstanding our knowledge of the great strength of this new compound, the rock looked so large, the hole and charge so small, we could not persuade our judgment out of the belief that *this* blast at least would prove a failure. Unfeigned then was our delight, npon witnessing the discharge, to see the center of the rock rising in air, and nearly two-thirds of it parting and tumbling into tho water. Seams were rent through the entire mass. But a small portion was broken fine or thrown to any great distance, although the rock was well fractured in the center, the largest pieces,—some of them of nearly 20 tons weight,—were thrown from the edge. The rock is supposed to have contained about 1,600 tons—not 16,000, as our types erroneously stated last week.

Parties who have visited the largest rock since the blast, at very low tide, say a considerable portion is imbedded in sand, but that it was completely broken through.

It is questionable whether one hundred pounds of blasting powder could have been made to do equal execution to that wrought by the single charge of strong powder. To have done the work with common powder, would have required at least ten times the amount of drilling, and it is ths time and cost of drilling, rather than the consumption of powder, that renders blasting operations expensive.

About one hundred intelligent witnesses, including Col. Mendell, who has charge of the construction of the Government fortifications on Lime Point; Maj. Elliott, commanding U. S. Engineers at Fort Point, and other officors, miners, and members of the press, were present at these experiments, who seemed to manifest much interest and great satisfaction with the resnlts.

The American and forcign patents for this powder are held principally by the inventor, Prof. Joseph Hafenegger, an Austrian; Rudolph Herman, President of the Hafenegger Powder Company, and Frederick Weisenborn, Prussians.

Mr. Herman, the leading manager in tho enterprise, who had charge of the experiments, is owner of the Harbor View House, some three-quarters of a mile this side of Fort Point. He has appropriated a small portion of his National Shooting Gallery for manufacturing the powder and making experiments for the benefit of any interested parties who are desirous of fully understanding the merits of the powder. Ono realizes more clearly the morits of the powder in five minutes by seeing him mix and fire it, than by reading columns of descriptions. The compound is simple. It requires no laboratory to manufactnre it in when the ingredients can be obtained in large qnantitios.

The proprietors are very willing to exhibit their powder and its operation to all parties and interested persons, who are invited to call and see for themselves.

THE SAFETY

Of the powder is shown by Mr. Herman in his experiments. He takes an ashy-looking powder, containing three ingredients, which he pounds with impunity, and into which he thrnsts a lighted match without effect. He also subjects a white powder, looking like fine salt, to the same treatment with like result. Neither can by any means be exploded separately. He then takes a common No. 30 sieve and sifts the two parts together, when we have

POWDER NO. 2.

This powder is just as explosive—and no more so—than common gunpowder, and is nsed in the same manner for blasting. Its power is rated as 10 to 1 of first quality of common blasting powder; its cost as 3 to 1 of gunpowder. It can be nsed for rifle powder, creates less offensive smell, and blacking and fonling effect, than the article in common use. To show its effect, a bulk eqnal to a musket charge of gunpowder was placed in a slight hollow of an anvil, over which a 32-ponnd cannon ball was placed. The detonation was equivalent to the discharge of a 6-lb cannon, and the ball was thrown several feet in the air. The same amount of first quality rifle powder, fired in the same way, had no more effect than a flash in the pan of an old flint-lock musket.

One and a half ounces of this powder was placed in a water-proof cap box, and this cap box placed in an iron cylinder of 2-inch bors and 6 inches depth. Over this was placed an iron-bound lager beer keg of 75 pounds weight. The discharge sent the keg some thirty feet in the air. Two and a half pounds of blasting powder, placed in an iron mortar underneath the same keg and fired in the same way, resulted in less noise, but much more smoke and fire, succeeding in raising the keg but a foot or two.

The two prepared parts of this powder may be soaked with water and dried, without losing their properties or wasting in strength.

POWDER NO. 1

Appears the same color as No. 2, but it may be hammered and filled with live coals and it will not explode in any manner till after being saturated with the fluid—and then it may be fired by a fuse, spark, or fire applied in any way.

We believe no powder in use has ever exhibited power equal to this, and for extraordinary or heavy operations it seems to be the best thing known. It has not, however, been sufficiently operated to determine positively its greatest relative strength, as compared with other compounds. Its safety is shown in the fact that it cannot be exploded until the liquid has been applied, and all is nearly or quite ready for the discharge, and then it is only exploded in the ordinary manuer.

SELF-IGNITING MATCH.

The powder No. 2, which is commonly nsed by the same method as gunpowder, may be exploded, or paper or other combustible material may be lighted, by saturating it with a certain liqnid which composes a part of Prof. Hafenegger's invention. The time required for prodncing this spontanoous combustion is regulated by the composition of the liqnid. After applying the liqnid to the prepared match paper, we observed the flame in about one minnto.

Our faith in the ultimate snccess of this powder was greatly increased by our observations on the day of trial. The fact that ths No. 2 powder can bo used after mixing, the same as gnnpowder, will make it popular with the mass of miners, while the safety of storing it and transmitting it the same as any common article of merchandise, before mixing the two parts, gives it a great advantage over ordinary powder.

Wo think the proprietors are entirely too slow in manufacturing and putting the powder into market.

PASSAGE OF THE COPPER TARIFF BILL.—A telegram on the 25th announced that the protective copper tariff bill, which was introdnced and pressed mainly in the interest of the Lake Snperior miners, but also vigorously sustained by petitions from this State, has finally passed the Senate. The *Lake Superior Miner* states that President Johnson's personal assurance has been given that he will sign the bill. The bill was passed by a vote of thirty-eight ayes to twelve noss. Among the ayes were Cole, Corbott, Williams, Nye and Stewart. While the bill was yet pending, Mr. Ferry, of Connecticnt, charged that the movement to increase the duties was not in the interest of the copper-miners, but of speculators in copper stocks.

The Detroit *Tribune* says: "This assertion was contradicted by our Senators, and from our own knowledge we are able to corroborate their statements. Specnlators may have operated in stocks, and made the probable passage of the tariff bill the basis of their calculations. Be this as it may, the *bona fide* copper-mining interests must have relief, and their petitions, therefore, are based upon actual and crying necessities. If they do not obtain such relief, the Mineral Range of the Upper Peninsula will again become a wilderness."

NOMINATIONS FOR OFFICERS OF THE MECHANICS' INSTITUTE.—At a meeting held on Saturday, the 20th, the following gentlemen were put in nomination as tho regular candidates for officers of the Institute for the ensuing year: For President—A. S. Hallidie, manufacturer of wire rope; for Vice President, J. R. Wilcox, builder; for Treasurer, H. L. Davis, President California Trust Company; for Corresponding Secretary, J. H. Gilmore, moulder; for Recording Secretary, George Pardy, mechanical engineer. For Directors: George C. Hickox, of Hickox & Spear, bankers; H. P. Herrick, carpenter; H. C. Macy, architect; W. Bartlett, County Clerk; H. Kimball, of Bartling & Kimball, bookbinders; A. Cameron, stair-builder; Robert G. Carlyle, machinist. Tho election will be held on Monday, March 1st, from 12 M. to 9 P. M.

TERTIARY DEPOSITS IN CHINA.—Baron Richthofen has returned from Nanking and from his geological tonr through parts of Chekiang and Kiangsn. He reports tertiary limestones full of nummulites, overlying the carboniferous limestones near Ta-hu. In connection with similar deposits in South Europe, in the Himalayas, in Japan, and the Philippines, and probably also in Formosa, the fact is of interest. It is known that the tertiary deposits of China cover a considerable area, but hitherto limestone had not been noticed of that age.

YANKEE MECHANICAL "NOTIONS."—The clock factories at Bristol, Connecticut, are busy making "movements" for walking dolls. A New York firm keeps five hundred girls at work making the dolls. Automatic baby-swings and cradle-rockers are turned out in quantities at Bristol; and among ths new things is a self-winding clock,—operated by the chimney draft.

O. M. TAYLOR, who acted as agent—*for a very short time*—for this paper in the State of Nevada, last August, is requested to call at this office and attend to business mattera on thal account.

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

O. M. TAYLOR, who acted as agent a brief time for this peper in Washoe, is requested to call at or address this office, without fail.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 116 Sutter street, Lick House Block, San Francisco. 6v13-3im

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low 10v17tf

ACROSTIC.

Pain Killer is *worth* what it weighs, in gold,
All around the world are its praises told;
It will Cholera cure—scourge of southern climes,
No victim dies, who takes it betimes.
Keep Pain Killer—a true friend by your side,
It will cure Cough or Cold, or Colic beside;
Look out to apply it for Bruise or for Sprain,
Let it once be tried—"*twill be used again;*
Every word I am telling you, Reader, is true;
Remember that Pain Killer is *good for you.*

The Pain Killer is sold by all Druggists and dealers in Family Medicines.
REDINGTON & CO., and HOSTETTER & SMITH, San Francisco, Cal., General Wholesale Agents. febim

Offices to Let.

Two convenient front rooms (No. 9 and 10) in second story of No. 423 Washington street, to let on favorable terms Apply at this office, up stairs, No. 414 Clay street.

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HANDSOMELY PRINTED
AT GREATLY REDUCED RATES
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In the most approved form.

Our experience is large in this line of printing, and we are bound to give satisfaction in prices and work.
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Established for the Manufactnre of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
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Of every description and size.
Orders addressed to PACIFIC ROLLING MILL COMPANY Post Office, San Francisco, Cal., will receive prompt attention.
The highest price paid for Scrap Iron. 9v14m9p

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The Patent Plumbago Crucible Co.,
Manufacturers of all kinds of
Melting Pots, Portable Furnaces,
CRUCIBLES, and other fire-standing Goods,
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THE MORGAN PATENT CRUCIBLES have uniform quality, never crack, withstand the greatest heat without danger; heats more rapidly than any other; change of temperature has no effect on them; stand on the average forty to fifty pourings.
On hand and for sale by the Agents,
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519 Front street, San Francisco
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$20,000 to $25,000.

A PRACTICAL SMELTER wishes to enlist capital to build a Furnace on a Mine of rich Argentiferous Galena at White Pine. From $800 to $1,000 a day can be cleared with ease. Security and best of references, etc., given.
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STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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AMALGAMATOR AND SEPARATOR,

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WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continuat working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

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Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, fuel saving, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

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San Francisco, May 1, 1868. 18v16tf

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High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.
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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and those Couplings and Connections of all sizes and patterns, furnished with dispatch.

PRICES MODERATE.

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Steam Engines of all Kinds.
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Machinery and Castings of all kinds, either of Iron or Brass.

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Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

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THE STUDY OF ALCHEMY IN CHINA.—At the October meeting of the Oriental Society in New Haven (Conn.) Rev. William A. P. Martin, of Pekin, read a paper on the "Study of Alchemy in China." After tracing briefly the connection between alchemy and chemistry, the paper proceeded to demonstrate that the origin of Eurcpean alchemy was to be sought in China. In support of this view the following considerations were adduced, and illustrated by citations from Chinese and other works:

1. The study of alchemy had been in full vigor in China for at least six centuries before it made its appearance in Europe. It did not appear in Europe until the fourth century, when interconrse with the far East had become somewhat frequent. It appeared first at Byzantium and Alexandria, where the commerce of the East chiefly centered, and was subsequently revived in Europe by the Saracens, whose most famous school of alchemy was at Bagdad, where intercourse with Eastern Asia was frequent.

2. The objects of pursuit in both schools were identical, and in either case twofold—immortality and gold. In Europe the former was the less prominent, because the people, being in possession of Christianity, had a vivid faith in a future life, to satisfy their longings on that head.

3. In either school there were two elixirs, the greater and the less, and the properties ascribed to them closely correspond.

4. The principles underlying both systems are identical—the composite nature of the metals and their vegetation from a seminal germ. Indeed, the characters *tsing* for the germ, and *t'ai* for the matrix, which constantly occur in the writings of the Chinese alchemists, might be taken for the translation of terms in the vocabulary of the Western school, if their higher antiquity did not forbid the hypothesis.

5. The ends in view being the same, the means by which they were pursued were identical—mercury and lead being as conspicuous in the laboratories of the East as mercury and sulphur were in those of the West. It is of less significance to add that many other substances were common to both schools than to note the remarkable coincidence that in Chinese as in European alchemy the names of the two principal reagents are used in a mystical sense.

6. Both schools, or at least individuals in both schools, held the doctrine of a cycle of changes, in the course of which the precious metals revert to their baser elements.

7. Both are closely interwoven with astrology.

8. Both lead to the practice of magical arts and unbounded charlatinism.

9. Both deal in language of equal extravagance; and the style of European alchemists, so unlike the sobriety of thought characteristic of the western mind, would, if considered alone, give us no very uncertain indication of its origin in the fervid fancy of the Orient.

A COAL FIELD ON FIRE.—The Louisville *Courier-Journal* publishes the following:

We learn that a great conflagration is now at the hight of its progress in the celebrated Millar coal mines, on the Monongahela River, at the mouth of the Youghiogheny, fifteen miles southeast of Pittsburg. The fire began sometime since, and great efforts have been made to extinguish it, but to no purpose. An attempt to check its career was made by the erection of mud walls and the pumping in of large quantities of water, and by this means the fire was partially smothered; but the heat became so intense and the pressure of gas so great that the walls were burst, and the flames are now sweeping onward with greater force than ever. The fire is spreading through the old mines at the rate of sixty yards per day, and it is feared the entire field may be destroyed. So much progress has been made by the flames that it is estimated that the cost of extinguishing them before they have spread over the face of a thousand acres will not be less than $150,000. Twenty-two loaded wagons and all the tools of the miners have been lost thus far. The Millar mines are carried on by A. Millar & Co., of which firm Charles Millar, of this city, was formerly a member.

The coal field over which this great subterranean deluge of fire is sweeping, is one of the most valuable on the Monongahela, and extends a distance of some eight or ten miles. It is difficult to say what will be the result of this undergrounnd conflagration if it is not checked very soon.

COAL IN MONTANA.—The coal mines near Dearborn, Montana, produce a superior article of bituminous coal, which is found much better than charcoal for welding iron or steel. A load brought to O'Bannon's in Helena, is highly spoke of by the *Post*.

HYDRAULIC MINING.—This interest is at its highest stage of activity throughout the State, in steady and unexcited but sure and paying operations. From Dutch Flat, for example, our correspondent "A. E. R.," under date of Feb. 22d, writes:

Another mill has made a run on the Blue Gravel lead at this place, and had a splendid clean up, taking out a large amount of gold. The Baker Boys' Company have been busily engaged in bringing dirt to the mill, and as it is brought to daylight out of the drift, the yellow particles may be seen in every car load; and it promises to eclipse all the former yields by a large amount. The Roanoke, a new set of claims, have made a run and cleaned up well. All of the numerous hydraulic claims around here, at Cañon Creek and Gold Run, are paying about their old amounts, viz., eighteen to sixty hundred dollars, for from twelve to eighteen days to the run. There is considerable excitement about the Champion quartz lode. Some of the parties who went up to the claims, report, after examination, that the rock generally is much improved, in fact, immensely rich. I saw rock that prospected $2,800 per ton.

"EXPRESSIONAL DENTISTRY."—A correspondent of the *Scientific American* says of dentistry and dentists: The most popular material used by the profession for six or eight years past has been vulcanite. It has been popular on account of its cheapness, and the ease with which it can be manipulated; and yet the result of the use of rubber has been to retard rather than advance the artistic part of dentistry. Art has suffered sorely from this cheap and easily made work, and nature smiles at our attempts to imitate her work with rubber and porcelain teeth in rows like soldiers in a ten cent lithograph. To be convinced of this, we have only to notice in crowds, on steamboats, on the railroad car, on the streets, everywhere, the many, many sets of glistening, regular artificial teeth worn; and when we can discern the artificial, the thing is proved, for expressional dentistry would so hide the art dame Nature herself would not suspect another's work."

A GOOD LITTLE THING.—It is only three months since Charles Nye of Elizabethport, N. J., patented a bag-fastener; and he has already received cash orders for over 80,000, and several offers of $10,000 for the patent, which he declines. He has established a factory capable of turning out 15,000 of the article per day. The fastener consists merely of a couple of small leather straps, united by a central buckle.

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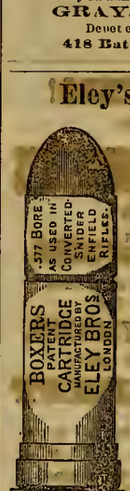

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2v15-1qy

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[See following extract from the Globe of May 14, 1868.]
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N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 6v17-1y

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☞ Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
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Persons going to White Pine will greatly promote their comfort by taking one of these Patent Bottoms, which is secured to a folding Bedstead, the cost of which is less than that of the materials at White Pine.
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☞ Call and examine. Open until 8 o'clock P. M.
6v18qr

New Inventions.

SUGAR MAKING ON A SMALL SCALE.—A recent invention for the evaporation of sugar bas added materially to the inducements for the manufacture of sugar on a small scale, by laborers or farmers who bave not the capital or inclination to erect large establishments. The new cane-mill bas a capacity of 1½ hogsheads a day. The principal feature is that the evaporator bas a copper bottom with a number of transverse channels through which the cane juice is caused to flow back and forth, boiling violently, until it reaches the last channel at the opposite end of the pan, when it is fully concentrated, and flows off a constant stream of liqnid sugar. It will enable operators to produce 10, 20, 50 or 100 hogsheads of sugar with the expenditure of a few hundred dollars for a complete and perfectly manageable outfit.

EARTH EXCAVATING AND DITCHING MACHINE.—The *Denver News* describes a new earth excavator and ditching machine invented by Nelson Plumb of that city. It consists of a revolving cylinder, on which are secnrely fastened obliquely across it two rows of teeth, or shovel plows by which it is proposed to break up the earth. In addition to these on the cylinder are double rows of boxes, which catch the dirt and by means of a spring operating within the cylinder throw it in any direction required. It is proposed to propel and operate the machine by steam, placing the engine on wheels behind the cylinder.

Mr. Plumb thinks their cost will be about $2,500, and that they can be propelled at the rate of ten feet per minute, excavating dirt at a cost of about two cents per yard.

NEW WOOD SPLITTING DEVICE.—The Sacramento *Record* says: We were shown yesterday, by Matthew Cooke, of this city, a new style of wood-splitting wedge, for which he has filed a caveat, and applied for a patent. It consists of a bar of cast-steel, abont fourteen incbes in length, sbarpened at one end, to admit of its being driven into timber. Above this wedge, about three inches from the end, is a chamber for the powder. From tbe top of this chamber to the head of tbe bar is drilled a hole; througb this, when the wedge is driven into position for a blast, fuse is introduced by a rod, which not only holds the fuse in position, but by means of a set screw renders the charge air-proof. The effect is said to be terrible, no log being as yet strong enough to blow the blast.

INDIA RUBBER SPONGES.—A new European invention is an imitation of sponge made from india rubber. The imitation is stated to be perfect in appearance, but much softer than the real sponge, and its power of absorption, owing to its elastic quality as well as its durability, is said to be much greater. It has the advantage of being shaped into any required form without loss, and its softness is not impaired by the process.

IMPROVED ROTARY ENGINE.—Messrs. Salmon Brothers have completed the model of an improved rotary engine, of double action—reversible. It is a very simple machine; so simple that any one can be an engineer wherever it is used. It will be applicable to locomotives, or steamboats; and we predict for it a leading place in that catalogue. The model is finished and will go on to Washington in a short time.—[*Oregonian, Feb. 13th.*

LAND TRANSPORTATION.—Jaime Lopis Alfaro, a citizen of Aguascallentes, Mexico, has petitioned tbat Government for a patent for a new invention devised by bim for the transportation of freight and passengers by land. He claims to be able to propel wagons and carriages by steam or expanded air over public highways without the use of rails, *i. e*, over common roads. Another invention claimed by him in the same petition, is, well balanced two-wheeled vehicles, adapted for general use, drawn by horses or other animals.

IMPROVED HOP KILN.—Daniel Flint, of Sacramento, has invented a new bop kiln, whicb is believed to require less time and less fuel than the ordinory one. The hops are dried without turniug and removed at once without breaking, by means of railroad tracks on which the drying shelves rest, to a store room to cool. To avoid the necessity of bailing the hops before they are properly cooled, there is a partition across the store room which makes two bins, so that the hops can be boiled out of one, while the other is being filled. Other arrangements for cooling evenly and working with economy of labor, are attacbed to the hop house.

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Resources and Developments.

SILK.—Mr. Nowman, of San José, has fifteen silklooms at San José, and two of them are at work weaving dress silk.

FIGS.—Dennen and Lasscle have taken up 160 acres of land in the foothills, in the neighborhood of Bugby's vineyard, and are engaged in setting out a fig orchard, a vineyard and a large number of fruit and mulberry trees.—*Folsom Telegraph.*

CORK OAKS IN CALIFORNIA.—Mr. J. H. Lick, Lick's Mills, Santa Clara County, Cal., planted acorns of the cork oak in 1858, and now has 85 trees, from 15 to 20 feet high and from eight to 10 inches in diameter. This would indicate that the climate of California is very favorable to the growth of this valuable tree.—*Vallejo Recorder, Feb. 23d.*

NEW ROAD FROM SALT LAKE TO MONTANA.—A number of the most enterprising citizens of Virginia City, Montana, contemplate forming a company for the purpose of constructing a wagon road from that city, via Henry's Lake, to Taylor's Bridge, on Snake river. It is said that this proposed new road will shorten the distance between Virginia and Salt Lake, or the railroad, fully eighty miles; while the route selected is reported as otherwise far preferable to the one now traveled.

THE NORTHERN TIMBER BELT stretching along the coast north of San Francisco, (says the Russian River *Flag*) for a hundred miles, and further, is a belt of redwood and pine timber from twenty to forty miles in width, nearly every stick of which is available to mills now running, or to eligible sites where mills will at some future day be erected, from whence the lumber can be sent to sea. There are no good harbors along this part of the coast, but, excepting in the winter season, vessels can anchor or moor and load in perfect safety anywhere.

PROSPERITY OF PUGET SOUND.—Business of all kinds on the Sound, say our exchanges from that section, is becoming very lively. The Land Office is doing a large business. For the month of January there was sold for cash 6,744 acres; located under the Homestead Act, 1,860 acres; final proofs upon homestead claims, by five years residence and cultivation of the same, 1,977 acres. Thus it will be seen that the Puget Sound country has taken a start, and there is little doubt that before another decade of years that country will contain one of the largest and most flourishing cities on the Pacific coast.

A GREAT GRAZING COUNTRY.—A gentleman just in from Elko says that the region of country surrounding that place is the finest for grazing purposes that he has seen in the State. He says no finer or sweeter beef can be found anywhere in the world than that upon which the Elkoites daily feast. The bunch-grass is in many places three feet high, and loaded down with seed, which is said to be more nutritious than barley, and horses and cattle are very fond of it. There are immense herds of cattle scattered through the country. Major Bradley, formerly of Stockton, Cal., has 15,000 head of cattle in that region, scattered about in droves of from 1,000 to 1,500 head. The hills for miles and miles are said to be alive with cattle.—*Enterprise.*

ALASKA RESOURCES AND ENTERPRISES BY SEA.—White Pine, says the *Bulletin*, may take the land lubbers, but the skippers have got Alaska and fur-bearing seals on the brain. As it is now conceded that no bill will go through Congress granting any trading monopolies, wide-awake parties are taking advantage of the prospects, and within a day or two every schooner which is sound and seaworthy enough for the voyage, and which could be procured, has been taken up for the Alaska venture. The owners say very little, but are very busy. Whaling, fur trade, barter with Indians, anything in the way of a commercial venture in the region of Alaska, is now the rage.

PHYSICAL DEGENERATION OF THE PARISIANS.—Dr. Raoul le Roy, who has made the matter a special study for years, says the *physique* of the inhabitants of Paris has been, of late years, distinctly deteriorating. One cause of this is the enormous increase in the use of tobacco and alcohol. The consumption of the latter has exactly doubled since the year 1825. As to tobacco, in 1832 it produced a tax of 28,000,000f; while in 1862 the consumption of tobacco brought into the government a sum of 180,000,000f. In 1852, 200,000,000 cigars were smoked in Paris, whereas, in 1867, the number increased to 761,625,000.

White Pine Items.

TELEGRAPHIC despatches are now received in this city from Hamilton direct.

SANGUINE people, says the *Sacramento Union*, believe that emigration to White Pine District will reach 25,000 before the middle of June.

SOMETIMES for a whole week together, Treasure City is wholly above the clouds, and the top of Treasuro Hill seems an island in mid ocean.

THE present population at White Pine is estimated at 6,000 to 8,000. Real estate speculation occupies the attention of a good many at present.

LETTER WRITERS, and all the Nevada papers are already canvassing the merits of a dozen or more new districts east of White Pine. Much that is known, however, is kept secret, with a view to further prospecting; and little can be said of their value at present.

THE altitudes of prominent localities at White Pine, have been taken with the aneroid barometer; but it must be remembered that the aneroid is very unreliable at such altitudes. Let tho observations be taken properly, with two cistern barometers, and repeated at least half a dozen times before making calculations.

BITUMINOUS shale, which burns freely, even in an open air fire, and is supposed to overlie a bed of genuine coal, has been discovered 1¼ miles east of Hamilton, and a claim has been located by parties in Hamilton and San Francisco. The shale is of the same character as that at Elko, and will serve for fuel for generating steam.

THE business of driving tunnels into the bowels of Treasure Hill is likely to prove especially active from this time onward, not less than a dozen of these important enterprises having been projected, four or five being already under way. In one of these tunnels, that of the Treasure Hill Company, a vein of exceedingly rich ore has already been struck, while in another, ore of a much lower but moderately good grade has been reached. These tunneling operations are becoming very popular here; as it is generally believed, they must result in great and almost certain success.

AN Elko correspondent of the *Bulletin* writes: Wells, Fargo & Co. intend to run two stages daily from Elko to White Pine. Their overland stages, which have been running for the last four months from Argenti, consisting of some 12 coaches and over 100 head of horses, arrived at Elko on Monday, the 15th, the remainder of the running stock going *via* Austin to Jacob's Wells, and from thence will stock the portion of the road nearest White Pine. Hughes & Middleton's accommodation line has also commenced running, and their line is in some respects superior to the Overland. Andy Poland & Co's opposition is another very good line. They are at present running tri-weekly, but will start a daily through coach shortly. This firm have also an excellent Saddle Train on the same road, which seems to be well patronized. The Pioneer Line owned by Len Wines, and run in connection with the Pacific Union Express Co., does not fall short of the others. It is currently reported here that the Idaho line of stages, belonging to Hill Beachy, will commence running from Elko early next Spring.

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The rubber points will not absorb the moisture from the boot, so that the soft flannel which covers them is always dry. Their springing elasticity renders them of peculiar value to the aged and infirm, who feel the jar of walking upon hard substances, also, to all persons whose business requires much walking or standing.

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OPINION OF OTHERS:

EVERY miner in the community should subscribe for the Mining and Scientific Press.—*Grass Valley Union.*

MINING AND SCIENTIFIC PRESS.—This excellent scientific journal has entered upon its eighteenth volume.—*Chico Courant, Jan. 15th.*

THE *Mining and Scientific Press* should have an extensive circulation in every mining community on the Coast.—*Placer Herald, Dec.* 19.

W. FRANK STEWART is Dewey & Co's accredited agent for the Patent business in this city, and will attend to their affairs in that specialty.—*San Jose Mercury.*

MINING AND SCIENTIFIC PRESS.—This journal is devoted to mining and scientific researches, and has been conducted with great ability. It has been greatly enlarged and improved.—*San Jose Patriot.*

THE MINING AND SCIENTIFIC PRESS has become almost indispensable to the miner and machinist, and is well deserving of the patronage which we are pleased to learn it receives.—*Mariposa Mail, Jan. 10th.*

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THE *Mining and Scientific Press* is one of the best papers of the kind ever published, and to California miners, especially, it has become an almost indispensable requisite for the successful prosecution of their calling.—*Nevada Gazette.*

NEW VOLUME.—The MINING AND SCIENTIFIC PRESS has entered upon another year's work looking improved and promising. This paper is devoted to the interests of the scientific world, and to the miner and mechanic is almost invaluable.—*Gilroy Advocate.*

THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

THE MINING AND SCIENTIFIC PRESS commenced a new volume with the new year. It is a credit to the State, and to the mechanic or miner, is a great source of valuable information. It has every appearance of prosperity, and we hope it may continue growing in wealth and influence.—*Pajaronian.*

TO MINERS.—William H. Murray, traveling agent for the Mining and Scientific Press, published by Dewey & Co., of San Francisco, is in town soliciting subscriptions for that paper. To the intelligent miner, a paper like the *Press* is particularly valuable, keeping him posted on the latest discoveries in reduction of ores, new machinery, etc.—*Grass Valley National.*

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A VALUABLE PAPER.—For many years after the American settlement on this coast, a journal devoted entirely to mining and scientific interests did not exist. Vast sums of money were expended, or rather squandered, by capitalists and others, for lack of proper practical and scientific information about the mines and their developments. This necessity has been fully met by the MINING AND SCIENTIFIC PRESS, published by Dewey & Co., at No. 414 Clay street, San Francisco.—*San Jose Mercury.*

MINING AND SCIENTIFIC PRESS.—We look upon this paper as one of our most valuable exchanges, in fact it deservedly stands at the head of all publications embracing mining, scientific and mechanical subjects, and contains much miscellaneous matter of interest, and is a gem of neatness. The PRESS is published by Dewey & Co., San Francisco, and at its present low price of five dollars per annum, should be patronized by every one, but more especially by miners, mechanics and inventors who wish to pursue their avocations with intelligence and economy.—*Tidal Wave, Idaho.*

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New Mining Advertisements.

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Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of February, 1869, an assessment of twenty-five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, Room 11, No. 431 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the second day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WILLIAM VALE, Secretary.
Office, 424 California street, San Francisco. feb27

Star Creek Mining Company.—Location: Storey District, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of February, 1869, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary at San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-ninth day of March, 1869 shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HORACE MORRISON, Secretary.
Office, N. E. cor. Front and Jackson streets.

N. B.—The assessment levied on the seventeenth inst. has been rescinded, by order of the Board of Trustees.

feb27

Mining Notices—Continued.

Cholk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
E C McComb	30	12½	$25 00
E C McComb	99	2½	5 00
Martin White	5	150	300 00
H W Hall	33	25	50 00
John R Mead	49	25	50 00
J H Pearson	64	2½	5 00
Wesley Henderson	67	100	200 00
Alpheus Ingle	71	5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on Monday, the eighth day of March, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.
Office, 37 New Merchants' Exchange, California street, San Francisco. feb20

Chloride Mountain Tunnel and Mining Company.—Location of Works: White Pine Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of February, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 615 Kearny street, San Francisco Cal.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the tenth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JAMES RICE, Secretary.
Office, No 615 Kearny street, San Francisco. feb13

Golden Rule Mining Company, Tuolumne County, California.—Regular Bi monthly dividend (No. 18) of the Golden Rule Mining Company, of Tuolumne County, Cal., of 2½ per cent. per month, or fifty cents per share, is now declared, and will be paid to the Stockholders on and after the 26th inst. Office, 432 Montgomery street, Room No. 5.

J. B. RUSSELL, Secretary.
W. T. ROSWORTH, President.
A. S. PRIVER, Superintendent of Mine. feb20

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpina County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of January, 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of February, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the seventeenth day of March, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.
Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. jan30

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of January, 1869, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 426 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth (5th) day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirtieth (30th) day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N VAN SICKLEN, Secretary.
Office 426 Montgomery street, San Francisco. jan30

North American Wood Preserving Company.

Location of Works: San Francisco, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John L Samuels	not issued	300	$300 00
George W Dent	1	400	400 00
Henry S Dodge	not issued	200	200 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 430 Montgomery street, San Francisco, Cal., on Monday, the eighth day of March, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. B. LAKE, Secretary.
Office, 430 Montgomery street, San Francisco. feb20

BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's in ferior make additional charges, subscribers must have agents settle the same.

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VARNEY'S PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has overrequired repairs. The constant and increasing demond for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular dow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powdor, and the metal amalgamated.

Setters made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to exaoine these pans and setlers for themselves, at the PACIFIC FOUNDRY,

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India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,
Iron, Brick and Wooden Buildings,
SHIPS, STEAMBOATS, STAGES, CARS,
AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

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23v16-1y G. H. NOTT, Pres.

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MACHINES OF ALL SIZES FOR SALE
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2v17-3m T. G. DUENING & CO

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Boiler Scraper and Tube-Cleaner.

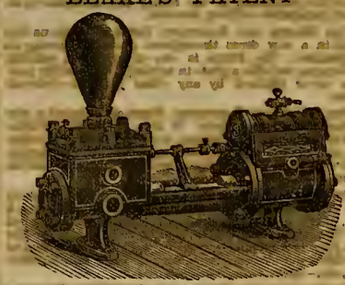
IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their internal surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tubo the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. P. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

BLAKE'S PATENT



STEAM PUMP!

This Pump is warranted superior to any in the market, for Breweries, Sugar Houses, Tanneries, Boiler-Feeders, Steamboats, Mining and Fire purposes, etc. It throws a full stream of the thickest beer mash without clogging, and sugar syrup boiling hot without difficulty.

Warranted a positive Pump under ALL circumstances: it never stops nor gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

☞ If one fails to do the work for which it is sold, it may be returned and the money will be refunded. May be seen in operation at Risdon's, or Union Iron Works, or at

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Iron and Metal Importing Company
Nos. 25 and 27 Fremont street,
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Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

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Attention is called to MARTIN'S NEW PATENT for a process for Distilling Alcohol (85 per cent. or higher), without rectifying, which is offered for sale on favorable terms. Samples may be seen, and further information obtained, at No. 423 Washington street.

26v17 E. M. DEWEY.

CIGAR AND CIGARETTE
Roller and Wrapper.

This useful little article is the GREATEST INVENTION of the age for the benefit of smokers, reducing the cost of Cigars and Cigarettes to the mere cost of the Tobacco. Very convenient to carry in the Pocket, producing no smell, and adapted to the use of any tobacco. In two sizes and three styles—Japanned, Brass, and Silver-plated. Sample machines, with 100 wrappers, sent free of postage on receipt of $2. The highest prize awarded at the Fair of the American Institute, September and October, 1867. For particulars, address H. C. Witt, 57 Cedar street, New York.

Beware of Infringements. All genuine have my name printed on the hands.

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Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.
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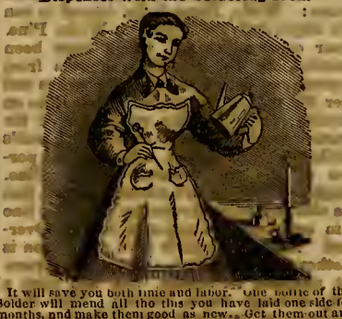
Novelty and Usefulness Combined.
Wilson's Prepared Solder
Dispenses with the Soldering Iron.



It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash boiler. It is sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over tire.

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CELEBRATED
WORCESTERSHIRE SAUCE

Declared by connoisseurs to be the only
GOOD SAUCE.

The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, Is to ask for

Lea & Perrins' Sauce,

and see that their names are upon the wrapper, labels, stopper, and bottle.

Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L. and P. give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.

Caution against Fraud.

Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.

Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc. etc., and by Grocers and Oilmen universally. Agents, CROSS & CO. San Francisco. 3v18-1y

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The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

Preservation of Timber with Sulphate of Copper.

The following communication dated Boise City, I. T., February 4th, 1869, on this subject, is of practical interest:

EDITORS PRESS:—In your issue of 23d ult., is an article touching on the preservation of wood, headed "N. Y. Society of Practical Engineering." The process there referred to is similar to one for which my grandfather held a patent in England and France; and as it is very simple and also very effective, and the patent is long since passed away, I will give the general particulars for the benefit of those of your readers unacquainted with it. The article used was sulphate of copper in the proportion of one pound of sulphate to eight gallons of water. The ordinary process was almost boiling the timber to be prepared, for from one to three hours in the solution and then plunging it into cold water. A section of the wood then showed the sulphate to have been driven into the very center of the timbor. Canvas and other like material was prepared similarly, by steeping in the solution for an honr or two. A captain of a vessel bound to Martinique thus prepared one of his anchor stocks, and on arriving at Martinique, (where the "*terredo navalis*" abounds) ussd two anchors, one with a prepared stock, and the other a new, sound, but unprepared stock. The vessel lay there at aochor for several months, and on weighing the unprepared stock, it was found to be entirely riddled, and almost destroyed by the "*terredo navalis*," whilst the prepared stock was untouched, and a microscopic investigation showed that it was proof against the insect. It has also been used for railway sleepers, with the greatest success. The value of this mode of preparation is its cheapness as well as its perfect security against rot. I have seen poplar wood thus prepared, buried for a year or two in rotten sawdust; when it was taken up it was quite sonnd, whilst unprepared wood placed with it, was quite destroyed by rot.

Wood, etc., can also be prepared by simply steeping it in cold solution for from three to five weeks, according to its size. Material thus prepared is also almost incombustible. H. W. O. M.

CHICKORY WORSE THAN A CHEAT.—The common adulterant for coffee is chickory. The use of chickory is openly acknowledged in some places, and even defended by grocers on the score of health and economy. We have medical testimony that chickory is extremely injurious to health. Dr. Hassall says that its frequent use produces heartburn, cramp in the stomach, loss of appetite, acidity in the mouth, constipation with intermittent diarrhœa, weakness in the limbs, trembling, sleeplessness, a drunken clondioess of the senses, etc. Again, it is the opinion of an eminent oculist in Vienna, Prof. Beer, that the continual use of chickory seriously affects the nervous system, and gives rise to blindness from *amaurosis*. Its use ought, therefore, to be discouraged, and grocers who sell it for coffee ought donbly to be put nnder the han.—*World.*

CAMPTULICON.—This substance is much nsed in England (but is only of late introduction into the United States) as a substitute for carpets or oil cloths, especially in public libraries and churches, as it deadens the sound of footsteps to a remarkable degree. It is made by a combination of powdered cork and the poorer qualities of india rubber, and is painted or ornamented on the surface like oil cloth. A convenient application of this substance is for cleaning knives, and is made by covering a strip of wood with it; then sprinkling the surface with the cleansing powder, and rubbing on the knife. The surface does not wear away, and the result is very satisfactory.—*Iron Age, Jan.* 28.

NATURAL GAS.—In Erie, Penn., there is a large manufactory of workers in brass, where the machinery is driven and the buildings lighted by the gas from an unproductive oil well. For more than two years the proprietors have brought the gas, by means of 3-inch iron pipes from an unsuccessful oil well 1,200 feet distant from the manufactory, and used it for fuel for their boilers and as lights for their works.

BEES AND WATER.—The American *Bee Journal*, in referring to an instance where a swarm of bees settled upon the head of a horse standing in front of a church, and the owner, who went to them was stung senseless, says that all the difficulty could have been obviated by the use of cold water sprinkled upon them.

PLEASURE ANALYZED ACCORDING TO SCIENCE.—A writer in the *Quarterly Journal of Psychological Medicine* contribntes a monograph on pleasnre, one of the first attempts at summariziag and explainiag existiag views on the snbjects. Describing pleasurc as that which is agreeablo to us, he acknowledges the difficnlty of definiag it. The essenco of the state of pleasurs is nothing more than a negation implying that whatever is positively discordant with our conscioasness must be disagreeablo to us. The contrast of pain is not pleasure, neither is the contrast of pleasnre pain. They aro both properly contrasted with indifferonco. It is easier to point out the sources of pleasuro, and these are, according to the writer we refer to, five. 1, an instinct satisfied. 2, a desire, a propensity, an appetite gratified with the appropriate material. 3, the special senses snpplied with the objects adapted to meet the elective affinity which seeks and accepts them. 4, a discomfort or annoyance, a harassing or a disagreeable condition removed. The writer adds a fifth source, but he is, nevertheless, prepared to find it disputed. It is certain diseased states of the organism.

CEMENT FOR LEATHER.—Of many substances lately brought very conspicuously to notice for fastening pieces of leather together, and in mending harness, joining machinery beltiag and making shoes, one of the best is made by mixing ten parts of sulphide of carbon with one of oil of turpeatine, and then adding enough gutta percha to make a tough thickly-flowiag liquid. One essential prerequisite to a thorough unioa of the parts consists in freedom of the surfaces to be joined from grease. This may bs accomplished by laying a cloth upon them and applyiag a hot iron for a time. The cement is then applied to both pieces, the surfaces brought in contact and pressure applied until the joint is dry.

TEST FOR WINE.—According to a German chomist, a very simple test to determine whether wine has been colored artificially or not, is furnished by adding powdered superoxide of maaganese to the suspected liquor, shakiag them together for a quarter of aa hour, aad then filtering. If the liquid be then light colored and traasparent, the contrary is the case.

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Inventors on the Pacific Coast, located at great distance from the Patent Office, of all others, should be careful to avoid inexperienced, dishonest, or otherwise unreliable and irresponsible agents.

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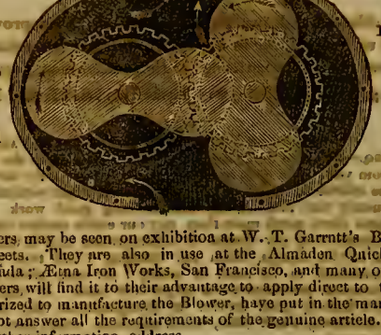
1v18.tf

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.

ADAPTED FOR Smelting, Foundry, Mining and Steamships.



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Contributions for our Cabinet.

No. 360.—Miargyrite, from the Rising Star mine, Flint, Idaho. Fahlerz, or gray argentiferous copper, is found in the upper levels, and the miargyrite at greater depths. It is easily distinguished from fahlerz by its giving a rusty red streak, and from ruby silver by its gray color. Presented by Guido Kustel.

No. 361.—Aphanite, from a dyke which crosses the vein containing the above, but which appears to be of older formation than the vein. Guido Kustel.

No. 362.—Iron amalgam, from the working of fahlerz at the Rising Star mine.

No. 363.—Gold in banded quartz, from the Pacific mine, Placerville, out of a drift 300 feet below the surface; one of the first quartz mines worked in El Dorado County, or in California, having been worked for over two years by the present manager, Mr. Stephens. In drifting from the main shaft, 300 feet deep, at a distance of 85 feet north, a "horse," in miners' parlance, was encountered; but within the past two months the workmen have been "raising on the ledge," and at a hight of about 20 feet a fine ledge developed, carrying five to eight feet of pay ore, working over $18 per ton at the last run. This fixes the existence of a large body of good ore.

No. 364.—Diallagite (carbanate of manganese), from Penitencia Creek, Santa Clara County. J. H. C. Bennett.

No. 365.—Asbestus, from near Montezuma, Tualumne County, where a large depasit is found in talcose slate. Presented by W. O. Sleeper.

DANGEROUS COAL OILS.—At last something has been done in New York towards the checking of the outrageous frauds which have been practiced upon the public in the matter of kerosene. Although the law distinctly declares the manufacture or sale, for illuminating purposes, of oil which is inflammable at a less temperature than 110° Fah., to be a misdemeanor, punishable by fine and imprisonment, it is notorious, not only that oil imperfectly freed by distillation from the lighter oils is sold, but even that same dealers actually *purchase*, at a low price, these light oils from the conscientious refiners, and *add* them to heavy oils, which are then sold for domestic use! A recent case of the fatal burning of a girl, has brought up the matter. On investigation before the courts, the oil in question was found to burn at 80° Fah., instead of 110°; and to vaporize at 68°, whereas that point should be at least 96°. The coroner very properly,—says the *Gas Light Journal*,—"held the manufacturers of this explosive compound, Reisser & Co., of Williamsburgh, to bail in the sum of $5,000 each, and the retail dealer from whom it was purchased, Schoonmaker, in the sum of $2,000, to await the action of the Grand Jury."

The *American Artisan* says that seventy-eight samples of kerosene from as many different retail dealers in New York, were tested by the Board of Health. "Of these one ignited at a temperature of 18°, while a large majority of the others showed a burning point between 44° and 100°; very few indeed going higher than the latter, and only one specimen in the entire list possessing all the characteristics essential in an absolutely safe burning oil. Other samples were subjected to analysis to determine the relative proportion in them of the dangerous fluids, and some of these showed the presence of benzine, gasoline, naphtha, etc., in quantities varying from six to ninety per cent. The specimen containing the last-mentioned percentage was about as appropriate to the burner of a kerosene lamp as a coating of nitro-glycerine would be to the top of a blacksmith's anvil.

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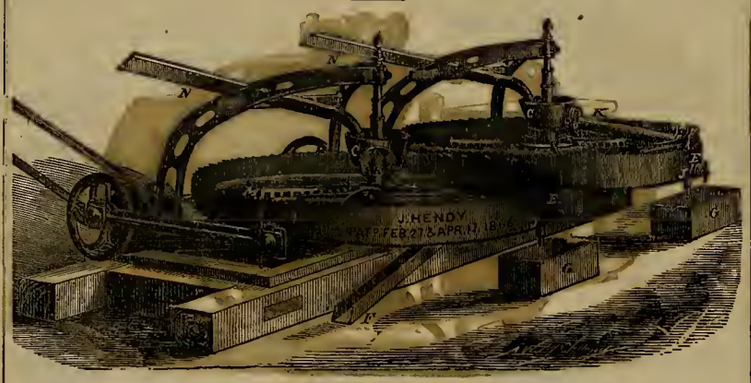
AWARDED BY THE

MECHANICS' INSTITUTE, 1868,

ALSO AT THE STATE FAIR FOR 1868,

To J. HENDY.



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Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.

Office at Union Iron Works.

13v17tf

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Our fee for a caveat varies from $10 to $15. The Government fee is $10.

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We draw up legal assignments for patentees; record assignments in the Patent Office; procure copies of United States and foreign patents; make examinations here and at Washington regarding the patentability of inventions; take up and prosecute rejected cases, depending upon success for our fees; reissues taken out; interferences prosecuted—in fact, every legitimate branch of the patent agency business is thoroughly conducted by us here and our branch agency in Washington.

California inventors should beware of placing their inventions and money in the hands of persons not well known as honest, responsible and capable.

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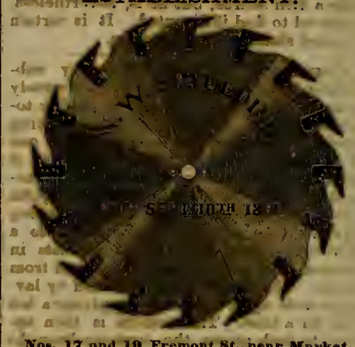

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, MARCH 6, 1869. VOLUME XVIII. Number 10.

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MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, British Columbia, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Wyoming and Washington.
New Patents and Inventions.
San Francisco Mining Shareholders' Directory.
San Francisco Metal Market.
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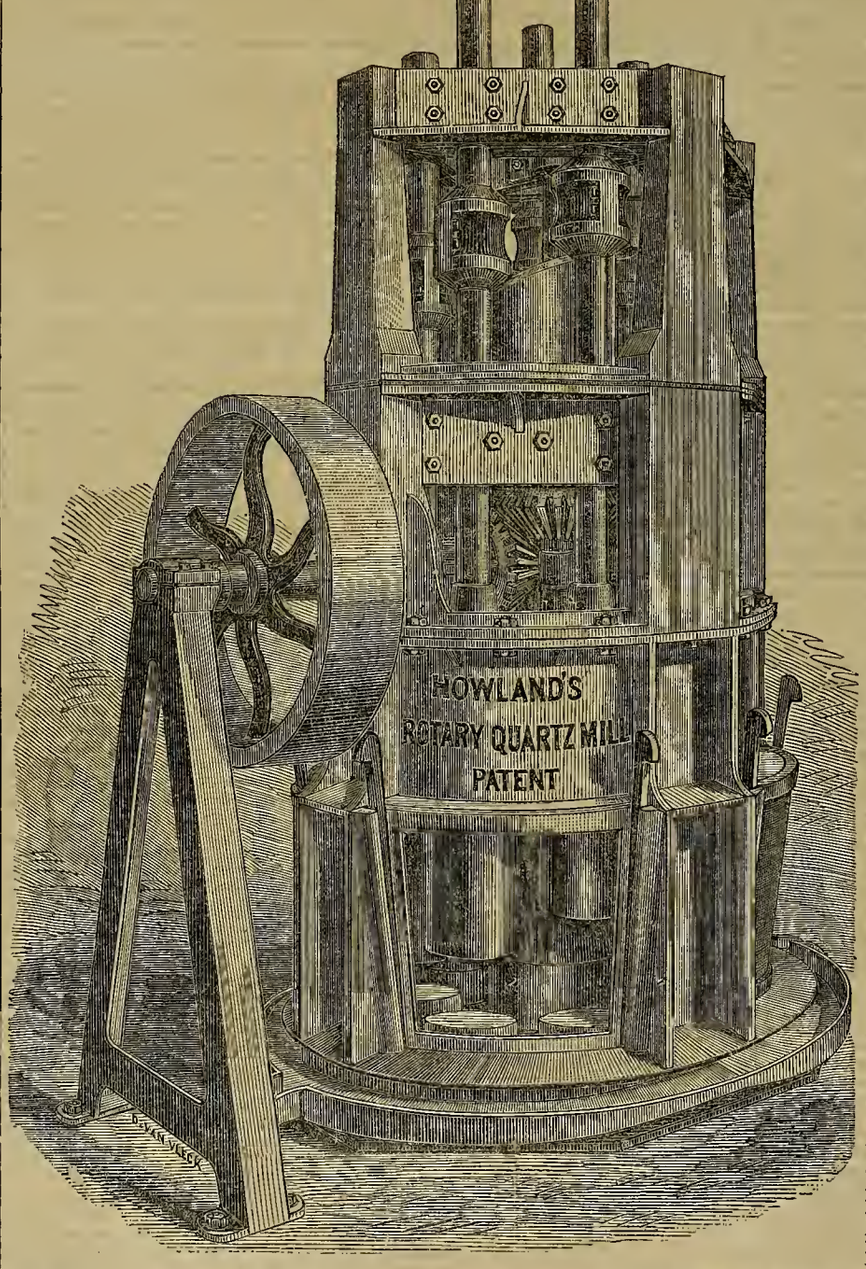
Stock Prices—Bid and Asked.
New Incorporations.

The Howland "Rotary Battery."

This invention, of which we present an illustration, recommends itself especially to our attention at the present time. It is conceded throughout the world that the American quartz milling machinery developed and produced in the foundries of San Francisco, is superior to anything of the kind in use in any other country. The stamp-mill is really the simplest of all machines, the commonest, and the most ancient of devices for crushing coarse substances fine; and its application has been very extensive in the arts outside of mining. In economy and efficiency, and for general application, it has held its ground against all subsequent inventions of our inventive century having the same purpose in view.

But the lumbering old wooden quartz mill of the Erz Mountains, though very cheap and durable,—and not by any means unworthy of consideration to-day for distant mountainous regions possessing water-power *minus* capital,—was not the thing for Washoe. Mechanically ingenious Americans who had roamed around the world before trying silver ore reduction, machinists, ex-sailors, and jacks of all trades, took up the stamp-mill the moment that there was "money in it," and made out of it a perfect machine. The smooth-working, and durable iron framing and shafting; the rotary stamps, adding a grinding effect to that of stamping; and a score of other practical details, soon made out of the Washoe stamp mill as pretty and as thorough a piece of working machinery as any one could desire to see. The truth of modern industry asserted itself here again—that steam and iron are the true and the most economical agencies of development wherever they can be advantageously applied. Ever since the palmy days of Charley Strong's management, accordingly, the mill has been everything with us,—our ores are "milled," and the metallurgists are "millmen."

The circular battery is a progressive step in the construction of the stamp-mill; and like the improvements shown in the efficient and elegantly-working Washoe quartz mill, the conception, and the peculiar trait evidenced therein, are eminently American in their character. First, ricketiness and inefficiency were overcome, as far as practicable. Now we add to the principle of the stamp-mill the perfection of simplicity and economy in the method of applying the elevating power to the stamps; the greatest possible quantity of screen surface to each stamp, the screens being the outer circumference of a circle—an important point, as millmen will recognize, especially in dry crushing, for which this mill is particularly adapted, though we believe not inferior to the ordinary one for wet crushing; the greatest economy of space, compactness and completeness, as issued from the foundry; and besides, if properly constructed to avoid jarring, also of durability. Another peculiarity of the circular stamp-mill is, that in wet crushing with quicksilver in the battery, it serves at the same time as an amalgamator, in creating, by the successive falling of the stamps, a current of fluid pulp round the circuit of the dies, which keeps the quicksilver and the ore in constant and perfect agitation, and contact.



The circular stamp mill has stood the test of practical operation at the Gold Hill mill during seven years, and is highly spoken of in several certificates which have been shown to us. In the new mills, one of which was recently mentioned in the PRESS, and is now on its way to Grant District, east of White Pine, there is more metal than heretofore in the mortar or base, and the leakage, jar, loosening of bolts, and wear of guide-boxes, heretofore complained of, are obviated by simple devices, such as wood-packing, etc. The claims in its favor are that it costs one-half less when set up and ready to run—viz., $1,800 and $2,800 for 8 and 12-stamp mills, weighing 12,000 and 18,000 pounds respectively, plus the freight, and one or two days of work in setting up—and that it requires less power than the ordinary mill.

In explanation of the engraving, it is scarcely necessary to add that there is a central revolving shaft driven by the bevel gear seen in the middle, having two triangular or wedge-shaped arm-attachments, which elevate and drop the stamps in turn, two (opposite ones) at a time. The feeding is from the center, the rock being shovelled in, or brought on automatically, as may be preferred.

REMARKABLE WALL SPRINGS of immense depth and varying level, are not uncommon throughout Nevada, and are to be accounted for as being natural artesian wells. The change of level in one of these situated perhaps a hundred miles east of Austin on the old overland route, is said by the station-keeper, to have a marked connection with the direction of the wind. As applying to particular seasons, or to continuous winds, this fact could be easily accounted for. Another of these wall springs is on the Humboldt and Honey Lake road. This is a perfectly circular spring, one hundred feet in diameter, and of unknown depth; from which flows a stream of about one hundred inches of the purest water, in which are thousands of small fish. If nature forms artesian wells in Nevada, how much may yet be done for that country in a similar manner by art? Many a way-worn and thirsty miner may profit by the hint so strikingly furnished him. Some of the dry barren soils of Nevada have been found the richest in the world, under moisture.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

Written for the Mining and Scientific Press.

Mechanico-Astronomical Cause of Geological Changes, and Earthquakes.

It would seem that the following simple circumstance in the physics of astronomy,—furnishing a mechanical explanation of geological changes not otherwise sufficiently accounted for, and at the same time a very possible constant cause of earthquakes,—could not have been overlooked by the cosmogonists, from Laplace down; yet we do not remember seeing or hearing the point of our correspondent heretofore advanced. The writer is known to our readers as having furnished us, not long since, with a method of obtaining perfect crystals of gold artificially:

Editors Press:—I propose to set forth a few ideas in relation to geological changes and earthquakes, which I have not yet heard advanced. We are living upon a ephere which revolves around the sun,—not in a perfect circle, but with an orbit of an elliptic form; and at the same time it is making 365 revolutions per annum, upon its own axis.

Now the question naturally arises, does one motion affect, or have any influence, upon the other? I cannot but think it does. Thus, as it passes from the flat side of the ellipse to the ends,—or in other words, from a long curve to a short one,—the two forces embodied in the earth must necessarily have a twisting effect—the orbit motion on the revolving motion,—consequently gradually changing the position of the poles and equator.

We have various facts that go to prove that this change does take place; for instance, we find the romains of plants and animals imbedded in coal beds and rock in the Frigid Zone, which are now known to inhabit none but the Torrid Zone. How came they there? Simply because the equator was once there. Professor Agassiz has also discovered the remains of immense glaciers in the Andes of South America, directly under the equator. How came they there? Only by once having had one of the poles at least nearer than at present. Now admitting that this theory of the changing of the poles is correct, let us see what the effect would be upon the globe. The earth is said to be about forty-five miles thicker through at the equator than it is at the poles; making twenty-two and one-half miles depression of the ball on each side of the equator; and as it is about six thousand miles from the equator to the poles, we have a down grade of about *nineteen feet to the mile.* If the earth's motion were stopped, the water from the equator would commence rushing to the poles and fill up that twenty-two miles and a half, or until all parts of the surface of the earth would be at an equal distance from the center. But as the earth revolves at the immense velocity of about one thousand miles an hour, it throws back the waters from the poles towards the equator sufficient to counteract the attraction of gravitation on the down grade to the poles, and keeps up a perfect equilibrium; and the waters remain comparatively of a uniform depth. If the solid earth were not of spheroid shape, but perfectly round, there would be all land at the poles, and all water at the equator.

The point that I wish to advance, hearing upon geology and the causes of earthquakes, is that as this change of the poles goes on, the surface of the earth must necessarily change with it, for if it did not, the earth would get out of balance, or in other words, would not run true, and would soon make a wreck of itself. But if the earth is a shell inclosing soft material, as most geologists concede it to be, then the crust would neceesarily yield and conform itself to that motion; and as the surface is composed of two substances, a fluid and a solid, of course the fluid, which predominates, is always ready to yield to it, as we see exemplified in our ocean currents, which are constantly flowing from one part of the world to another, to keep it in perfect balance. This, too, is probably the reason why we have so much more water upon the surface of the earth than land, for God never made anything for naught. If the land predominated, it would have an unsteady motion, and would evidently destroy itself. We have had an evidence of the changing of the ocean currents since the earthquake at St. Thomas, as it is said that the Gulf Stream has changed several degrees since that event, from its old course; and perhaps in a few thousand years, or after a few more such earthquakes, the stream may be destroyed entirely, or flow in some other direction to supply some deficiency created elsewhere.

I have endeavored to show the effect of this change of motion upon the fluid part of the earth; now let us see what effect it would have upon the solid portion. Of course that must yield and conform to it also, but as it is not free to move like the water, it will have a tendency to rise up bodily at the equator and sink down at the poles; but when it moves it goes in small sections at a time, and gives way with a sudden jar or quaking motion. If it is in a portion of the world that is rising, there will be two distinct shocks; one is the upward motion, the other is the vibration of the rocks caused by that motion. If it is in a portion of the earth that is sinking, there will be but one shock at a time, a sudden downward jar, for it tightens on the surface and prevents any vibration; and the latter consequently are less destructive. Upheavals loosen the surface, set it to vibrating, and are therefore more destructive in their effects.

Thus the earth gives way, first in one part, then in another, in one hemsiphere, and then in another, on the land, and under the ocean; and I venture to say that there is not a day passes in the year but there is an earthquake in some part of the world, perhaps not an hour. If it should give way in large sections at a time, they would be so destructive that it would render the world uninhabitable; but by a wise provision of nature the rocks are full of joints and seams, allowing the crust of the earth to move in comparatively small sections.

As I before romarked, we have twenty-two and one-half miles of difference between the extreme elevation of the equator, to the extreme depression of the poles, (deducting the difference between the freedom of the water, and the resistance of the rocks to move); therefore an abundant margin to go upon, in concluding that there is here cause enough to submerge the highest mountains or make dry land of the lowest depths of ocean. If the geologist will apply this principle to his science, he can readily account for all the geological changes which are constantly going on in the earth; for as one portion of the earth is lifted above the water, and as the vapors of the ocean rise and float over the land, the latter is condensed, falls in the shape of rain, and washes off the loose particles into the ocean, where each particle of a like specific gravity will be deposited in strata of like character, and by the immense pressure of the ocean they will be speedily converted into rocks, to be again submerged. And thus the work goes on from age to age.

The idea has been advanced that earthquakes are caused by electricity. Would it not be better to say that the appearance of electricity on such occasions is the *result*, and not the *cause* of the earthquake. Let us see which theory looks the most reasonable. We know that friction excites electricity; and if an earthquake takes place, there must be a powerful friction, in the joints or crevices of the rocks. We see the evidence of this immense friction of one mass of rock upon another, in working our quartz veins. There will always be, in a true fissure vein, on one side of it, a thin stratum of clay, or very finely pulverized rock, which I know of no way to account for but by the friction of the adjoining rock caused by the earthquakes. These same veins themselves are nothing more than immense cracks in the rock, caused by the earthquakes, and filled again by the circulation of the waters of the earth containing minerals. Like the blood of the human system, which is always ready to repair any injury done to it, so the waters of the earth—its blood—are ever ready to perform a like office.

William A. Begole.

Nevada, Feb. 18th, 1869.

Mechanical Progress in China.—Amongst the numerous evidences of the great changes that have begun in the Flowery Kingdom is the report, by the last steamer, that fresh artisans from Woolwich have been engaged at the Nanking arsenal, and that a small steamer, native owned, managed and engineered, is running from the Yangtze to Soochow, on the grand canal.

More Smelting.—Swansea is a new town in the White Pine district, about half a mile above Silver Springs. Smelting works are being erected there, and are promised to be in operation in a few days.

[Written for the Mining and Scientific Press.]

Explosives and their Uses.

New York Society of Practical Engineering held a regular meeting on Tuesday evening February 2d, at room 24, Cooper in the chair. The regular topic for the Institute, the President, James A. Whitney, evening was "Explosives and their Uses," and a paper on that subject was read by Dr. Dubois D. Parmelee. The paper first glanced at the history of gunpowder and inflammable compositions generally, referring their origin to a very early date in the history of the eastern nations. The formation of a large volume of gaseous material and its composition, and the effect of heat on the dilation of the gases produced was next discussed. The writer then passed to a consideration of the accidents due in many cases to the fact that precautions essential to safety in the manufacture of the explosive have been neglected. A method has been proposed for rendering gunpower less dangerous, consisting simply in diluting the powder with finely pulverized sand or glass. By this means the grains are separated from each other, and although the process does not prevent the burning of gunpowder when a spark reaches it, has yet the effect of retarding the combustion and preventing a violent explosion. The great objection, however, to this process, lies in the fact that the sand is liable to become separated from the gunpowder during transportation, and the former dangerous properties of the latter are renewed. The writer then gave a description of several compounds and preparations explosive in their character, among which we notice the following: The *pulvis fulminas* is composed of two parts of carbonate of potassa, one of sulphur, and three of nitre. When heated gently to fusion it explodes with a deafening noise. Augendre's white gunpowder, consisting of chlorate of potash, ferro-cyauide of potassium, and sugar; this was tried many years ago, and failed. An invention of Mr. Harsley and Dr. Ehrhardt, consists of a mixture of chlorate of potash with organic substances of a permanent character, such as tannic acid. This mixture is stated to be more powerful than gunpowder. An application of chlorate of potash has been proposed by M. Nochstaelter, a German chemical manufacturer. In the process for effecting this end, unsized paper is soaked in and coated with the chlorate, charcoal and sulphide of antimony, together with gum or some other substance of a binding character. The paper rolled up compactly burns with considerable violence. An explosive preparation which has been employed to some extent in blasting, consists of spent tan in small fragments saturated with chlorato of potash. Gun saw dust consisted of purified lignin converted into a substance of the nature of gun cotton, and then, when required for use, impregnated with saltpetre or a mixture of this with nitrate of baryta.

Gun cotton and its explosive properties were then considered. One pound of this material was stated to produce as much gas as three pounds of gunpowder. It is formed by exposing cotton prepared from finely carded and carefully purified cotton wool to the action of sulphuric and nitric acid of certain specific gravities. During the process of manufacture the cotton increases in weight about 78 per cent. One of the great difficulties in the way of using gun cotton as an explosive is its rapid combustion. One of the most successful expedients for modifying this is to dilute the gun cotton with raw cotton. Cartridges formed of this material burn more slowly than cartridges formed of pure gun cotton. A plan has also been put in practice for reducing the gun cotton to a pulp, as in the process of paper making.

The properties of nitro-glycerine as an explosive agent were next discussed. It is formed by the action of a mixture of strong nitric and sulphuric acids upon glycerine, the apparatus all the time being kept at a low temperature. The nitro-glycerine forms upon the bottom of the mixing vessels after standing for a few hours. It has a sweetish taste, no odor, and when placed upon the tongue produces headache. When left to itself it is exceedingly liable to spontaneous decomposition. Its destructive action has been estimated at about ten times that of gunpowder. Its frozen state is an exceedingly dangerous condition, for then a blow producing friction of the particles is apt to cause explosion. The writer closed his paper by describing the fuses employed for exploding charges of nitro-glycerine. The Bishop fuse, now in use in this country to a considerable extent, has two copper wires about five feet long insulated with gutta percha. The ends of these wires are fixed in a small wooden tube containing a priming powder. This tube is inserted in a copper cap containing the fulminate. The fuse is then connected with an electric machine by long wires and the charges exploded by the passage of the electric spark.

The reading of the paper was followed by some remarks on the subject of nitro-glycerine by Col. Chester, a gentleman who has had much to do with the material in blasting. He described the process by which the mixture is kept cool during the mingling of the ingredients. A glass tube passes down into the mixing vessel connected with a gasometer containing carbonic acid gas under pressure. The tube is furnished with radial arms bent at their extremities in a horizontal plane and perpendicular to the original direction of the arms. As the mixing of the ingredients warms the liquid, the escape of the carbonic acid gas through the arms, cools it. The principle here involved is that the gas escaping from pressure absorbs heat and renders it latent.

Dr. Bürstbinder, who has had considerable experience in company with Colonel Chester in the use of nitro-glycerine, then addressed the society. He remarked that the most important point in the employment of this liquid as regards safety, is the making of the material upon the spot. When this is carried out it is a much less dangerous article than gunpowder, while, if it be allowed to stand for a few months; it may decompose so much as to become exceedingly dangerous. It possesses an important advantage over gunpowder, in the fact that it requires no tamping.

The President spoke of the difficulty at first experienced in the introduction of gunpowder, as analagous to that experienced in the introduction of nitro-glycerine, and expressed a belief that the latter will soon be recognized as an important explosive agent. The meeting then adjourned to meet again in two weeks.

The Lone Pine Mint, says a correspondent of the *Sacramento Union*, is in active operation. The owner, superintendent and workmen, are combined in the person of Charles H. Aaron, who is also a correspondent of the Mining and Scientific Press. The coins are one-eighth of an inch, more or less, in thickness, with rounded edges and somewhat convex sides. Aaron buys silver which has been run through a furnace or base at Cerro Gordo, and refines it in a small furnance. Some gold, which is generally obtained from Coso, is melted with the silver. After the mass of seething metal has become sufficiently pure, it is poured into cold water, where it becomes finely granulated. From thence it is taken to a pair of delicate scales and carefully weighed and divided into small piles. Some of these bunches weigh 86-100 of an ounce, the remainder weighing 1 72-100 ounces, or nearly two ounces. Thus evenly divided, the metal is placed in separate crucibles and remelted. A very small iron pot is now brought forward, and a crucible taken out of the furnace, where its contents have been subjected to a high degree of heat, and the boiling metal is poured into the iron pot. After the liquid has become solid, the new coin is taken out and another coin is run. This operation is continued until all the crucibles are empty.

We have before us two pieces of silver which were formed in the above manner. One of them is a dollar and the other two dollars. The figures 86 on one side of the dollar show its weight, and on the other side are the initials "C. A.," immediately below which is stamped "$1." The two dollar piece, besides the mark indicating its value, is stamped "C. H. A.," and on the opposite side, "172."

Valuable Patents.—Mr. Bessemer derives an annual income of about $2,000,000 from his British steel patents, and the patentee of a device for dressing mill-stones by a revolving diamond, has realized over $1,000,000 the first year of his patent. The use of a diamond for this purpose is an American invention, and the estimated value of the exclusive right in England, for ten years, is $5,000,000.—*Hazeltine, Lake & Co's Circular.*

Mechanical.

THE HEATON PROCESS.—The English papors are still full of this subject. We have repeatedly referred to this method of steel making, and havo given the comments of *Engineering* and its correspondents. A recent number of that journal gives a summing-up of tho experiments which were made, and upon which Prof. Miller's favorable opinion was fonnded. We have not space for tho fignres, hut quote two paragraphs from the article,—the latter of which two is the concluding one: "It is unnecessary here to refer particularly to the chemical principles on which this method is based; the main question is as to the result, and a carefnl examinntion of the chemical data hitherto pnblished to elucidate that result is, alone, calculated to confirm and justify mneh of the adverse comment which Heaton's method has called forth." * * "Altogether, then, it is evident that the *rationale* of this method is involved in much obscurity, nnd that from n chemical point of view there is room for considerable doubt as to what is really the result obtained by its application to pig iron containing phosphorus and sulphnr. These circumstances alone certainly justify the demand for much fuller information than has yet been furnished, so that a fair opportnnity may be afforded of arriving at a correct estimate of the method."

PUMPING ENGINES.—In a comparison of the relative merits of the Cornish and the Fly-wheel pumping engines, by Robert Briggs, in the *Journal of the Franklin Institute*, for January, the writer shows that, in the first, the power is applied to the raising of a counterpoise from which is obtained the utmost possiblo effective impulse for the pnrpose of raising the column of water; while in the other, the tendency of the fly-wheel to a variable velocity, owing to variable impulses, being opposed to its effort to maintain a uniform one, there is a waste of power. The eonclnding sentence of the article is as follows.

"It is the losses of momentum and the frictional resistance of the water in the pumps, and passages, and pipes encountered in the transformation of a uniform circular motion into an irregnlar and reetilinear motion, that give the theoretic as well as practical superiority of the Cornish engine over any possible Fly-wheel one for pnmping."

BELTING.—Among the "belting facts and figures" compiled by the *Journal of the Franklin Institute*, we find the following: "A leather belt will safely and continuously resist a strain of 350 pounds per sqnare inch of section. The usual way of joining the ends of a belt—that is, by means of the leather thong—is the best after all, because it is the most convenient; the thong being an artiele more readily obtained and applied than any other of the numerous and ingenious means devised for securing the ends of a belt.

In the use of thongs, it is the practice of some engineers to eross them in lacing on both sides of a belt; with others to eross them on the outside only, laying the double strands evenly on each other in the line of motion and on the pulley side of the belt, which experieneo proves to be the better way."

STEAM-POWER TRANSMITTED.—The Portland and Kennebec Railway Company have run a 3-inch pipe from boiler-shop to machine-shop, a distance of four hundred and fifty feet, conveying steam-power for driving two engines of twenty-five and fifteen horse-power, carrying all the machinery of an extensive establishment. The pipe is four feet underground, is inclosed in three-quarter inch hair felting, and encased in a 7-inch box filled with calcine plaster. It has three slip joints to prevent breakage by expansion. When there is a pressure of 80 pounds of steam at the boiler, the same pressnre is maintained at the other end of the pipe. The new arrangement is found to work admirably, and will be a great saving in machinery, labor and fuel.—*Railway Times.*

SPECIFIC GRAVITY OF STEEL.—M. Carou has noted that the specifie gravity of steel diminishes with the number of times it is tempered.

SHARPENING OF FILES BY CORROSION.—Prof. Wurtz translates for the *Gas Light Journal*, from the *Chemisches Centralblatt*, the following directions for restoring worn-out files by means of neids: The files are first washed with a hot lye of soda, and all grease removed with brnshes. They are then snspended in a mixtnre of concentrated nitric acid with eight parts by measnre of water for twenty-five miuntes; then well cleaned in water with brnshes, and reimmersed for twenty-five minutes more in the acid mixture with addition of another eighth of strong acid. Brush again and reimmerse, after adding to the bath a 16th part of concentrated sulphuric acid. This heats the bath, and the etching proper now commences, and is kept up for three minutes, with a vibratory motion of the bath. Wash and brush and reimmerse in a bath similar to the last, with similar agitation for five minutes. Wash repeatedly with water, then with milk of lime, finally rinse again with water, dry quickly at a gentle heat and varnish while still warm with oil.

INFUSORIAL SILICA FOR CEMENT.—The following is from the *Mechanics' Magazine:* Böttger informs us that a cement of extraordinary binding power is made by using infusorial silica in place of quartz sand. This infusorial earth is found in Germany only, but it has been imported into this eountry in considerable quantities. It consists of hydrated silica, which combines with bases much more readily than silica in the anhydrous condition, as in quartz sand. The infusorial silica is mixed in about equal proportions with oxide of lead; about half a part of freshly slacked lime is then added, and the whole is then made into a paste with boiled linseed oil. The cement thus made quickly becomes as hard as sandstone, and will be fonnd extremely useful in such work as fixing iron in stone for balusters and railings. It is not likely to expand in setting, and thus no risk of splitting the stone will be incurred.

PRINTING IN COLORS.—The *Tribune* describes the new press, by which the simultaneous printing in several colors is accomplished. Its novelty consists in the adjustment of a series of secondary cylinders around the main printing cylinder. To each of these seeondary eylinders are attached fonntains, distributors, and rollers for distributing and rolling each color separately; and to this cylinder is also attached the electrotype whose impression is to be given to the paper in its passage over the main cylinder. The final impression, being black, is received by the form on the bed-plate, in the nsual manner; and the paper comes forth with its illustrations impressed in seven colors, as well as with the ordinary letter-press—all done at one revolution of the cylinder.

UTILIZING IRON TURNINGS.—A very simple and efficacious method of utilizing the abundant refuse of the machine shop, has just been patented by Mr. Edward Hammond Bentall. Iron cuttings, borings, or turnings are placed in cases of sheet iron, capable of containing about one hundred weight of the waste iron; the case, when filled, is submitted to the heat of a reverberatory furnace. When brought to a white heat, it is stamped with stampers, or put under severe pressure, which, owing to the highly heated and partially softened state of the metal, will convert it into a solid plastic mass or bloom.—*The Student.*

CEMENT FOR LEATHER.—The best is made by mixing ten parts of sulphide of carbon with one part of oil of turpentine, and then adding enough gutta percha to make a tough thickly-flowing liquid. One essential consists in freedom of the surfaces to be joined from grease. This may be accomplished by laying a cloth upon them and applying a hot iron for a time. The cement is applied to both pieces, and pressure applied until dry.

GRADES UPON RAILROADS.—It is found by calculation and experiment that heavy trains may descend a grade of 1-100th without attaining a greater speed than about forty or fifty miles per hour, even if allowed to run freely without applying the brake to check the speed. The velocity due to the accelerating force of gravity soon attains its greatest limit, and remains constant during the remainder of the descent, owing to the resistance of the air.

Scientific Miscellany.

Chemical Reactions Produced by Light.

Professor Tyndall recently read before the Royal Society, a remarkable paper, detailing some of his experiments with the vapors of volatile liquids. A glass tube was exhausted of air, and a given vapor then allowed to enter it together with air which had been purified. An electric lamp placed at one end of the tube, sent a beam of intense light lengthwise through this mixture of air and vapor. The effect upon the different vapors experimented upon, was various and remarkable. In some cases, the beautiful clouds which were formed, exhibited the appearance of leaves and flowers. Each vapor had its own specific cloud. "With vapor of nitrite of amyl, a shower of liquid spherules was precipitated on the beam. With a modification of the beam, the precipitation was so rapid and intense that the cone formed by the beam, before invisible, flashed suddenly forth like a luminous spear. With iodide of allyl, the vapor column revolved round the axis of the decomposing beam, drawn in at certain places like an hour-glass, while delicate cloud-filaments twisted themselves in spirals round the bells of the apparent hour-glass. With iodide of isopropyl the vapor formed globes and cylinders, which were animated by a common motion of rotation, disturbed at times by a paroxysm, in which beautiful and grotesque cloud-forms were developed, some representing a serpent's head, others buds which seemed to grow into flowers, and all of a gorgeous manve color. With hydrobromic acid the cloud resolved itself into a series of disks and funnels, then parasols and rings of a very pale blue color, and all rotating as in the former instance.

"With hydrochloric acid the cloud requires twenty minutes for its full development, but then it appears in sections, each possessing an exceedingly complex and ornate structure, exhibiting ribs, spears, tunnels, leaves, involved scrolls, and iridescent fleur-de-lis. With hydriodic acid another modification is seen, having a family likeness to the two immediately preceding, but with marked differences of development, for the green and crimson produced were the most vivid that Dr. Tyndall has yet observed. The development of the cloud, as he describes, was like that of an organism, from a more or less formless mass at the commencement, to a structure of marvelous complexity, at which he "looked in wonder for nearly two hours.'"

The different vapors are in these experiments differently decomposed. "Certain specific waves of the electric beam shake the molecules asunder."

Prof. T. anticipates "wide, if not entire, generality, for the fact that a liquid and its vapor absorb the same rays."

In this connection, we give this item: At a recent meeting of the Photographic Section of the American Institute, Professor Joy read the following extract from a private letter which he had received from Professor John Tyndall:

"My daylight hours have been recently occupied with the question of the chemical action of light upon vapors, and also with the blue color and polarization of the sky. These questions, which have been so long the great enigmas of meteorology, have, I hope, at length been brought within the grasp of experiment, and have been, to a great extent, satisfactorily solved. The condensed summary of my results is at the present moment in the hands of Sir John Herschell, who has manifested great interest in the inquiry. As soon as he sends it back to me I shall hasten its publication, and it will give me great pleasure to send you a copy of it."

PRUSSIC ACID IN THE LABORATORY.—M. Berthelot has just discovered that when a series of electric sparks is passed through a mixture of nitrogen gas and acetylene, or any hydrocarbon, in presence of a little potash and a certain quantity of hydrogen, prussic acid is slowly formed and absorbed by the potash.

PHOTOGRAPHING THE PYRAMIDS.—An expedition has started from Germany to visit Egypt, for the purpose of making a collection of photographic views of ancient inscriptions and monuments.

NATIONAL INSTITUTE OF SCIENCES, LETTERS AND ART.—On December 29th a meeting was held in New York, for the purpose of organizing a National Institute. A Constitution was after several preliminary meetings adopted, which was founded upon that of the French Institute, although of course modified according to circumstances. Several Academies will be organized under this Constitution.

The following circular was sent to the leading scholars of the country:

"The lack of any means of easy intercourse and free communication, and consequently of united effort and mutual support, has been felt for some time past by men of letters, artists, and scientific men in the United States. They constantly find themselves reminded of this lack by their weakness as a class, because although a class they are not a body with a recognized organization. Scattered over a wide expanse of country, they are, from this dispersion and this want, no less morally than physically isolated. There is no authority other than the temporary and shifting, although in some respects valuable one, of public opinion, by which their claims may be passed upon—no tribunal of their peers or of those of their own class to whose experience and judgment they would willingly defer—no representative council, the stamp of whose approval would be acknowledged by the public as well as by themselves. From the lack of such a center of union, of communication, and of combined action, they, and with them the cause of truth and knowledge, and the public welfare, suffer. In the hope, therefore, of compassing these objects, we propose to establish a National Institute of Letters, Art and Science, upon a plan outlined in a Constitution accompanying this Circular. We ask your coöperation."

The *American Naturalist* says:

"If, as it promises to do, the National Institute will bind together and thus efficiently guide and control the army of workers in letters, science and art, a new era has dawned for the development of knowledge and its practical results in America."

THE LAND OF THE NJAMNJAMS.—The French brothers Poncet, and Piaggia, an Italian traveler, have penetrated to longitude 24° E.—seven degrees west of the White Nile, and nearly to latitude 1° N. They have established the fact of the existence of another immense lake, lying on the equator, out of which flows a river, Babura, in a northwesterly direction, towards the Benui and Lake Tsad. Piaggia spent nearly two years among the Njamnjams, who are tailless, but cannibals. He was kindly treated by the chief, and was only prevented from reaching the new lake by civil wars. The account is one of the most important recent contributions to the geography of Central Africa. It is accompanied by a map of the region, by Dr. Petermann.

UREA FROM CARBONATE OF AMMONIA.—Basarow has discovered that *anhydrous carbonate of ammonium* is converted into *urea* by heating in a sealed tube to 130° C. (266° F.) The carbonate he obtained by the action of CO_2 on NH_3 dissolved in absolute alcohol. He has observed that the same result, conversion into urea, follows to a notable degree, upon the subjection of commercial carbonate of ammonia to a temperature of 130—140° C.; whence he infers that this latter may contain the anhydrous carbonate of ammonium. The following equation will make clear the theory on which Basarow based his investigation:

$$2(NH^4\,O,\,CO^2) = C^2\,H^4\,N^2\,O^2 + 4\,HO.$$

Gas Light Journal.

RENEWED POLAR EXPLORATIONS.—Dr. Hayes delivered a lecture in November last in New York, before the American Geographical Society, in which he proposed the renewal of explorations in the North Polar regions, and gave his reasons for believing that they could be successfully accomplished. He urges the "American route" by the way of Smith's Sound. This route is familiar to him, and he says he is as earnest as ever in his desire to lead a party over the course. The lecture has been printed in pamphlet form, and now the question is whether the men of wealth will aid the enterprise.

Communications.

In this Department we invito the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

Written for the Mining and Scientific Press.

Mechanico-Astronomical Cause of Geological Changes, and Earthquakes.

It would seem that the following simple circumstance in the physics of astronomy,—furnishing a mechanical explanation of geological changes not otherwise sufficiently accounted for, and at the same time a very possible constant cause of earthquakes,—could not have been overlooked by the cosmogonists, from Laplace down; yet we do not remember seeing or hearing the point of our correspondent heretofore advanced. The writer is known to our readers as having furnished us, not long since, with a method of obtaining perfect crystals of gold artificially:

Editors Press:—I propose to set forth a few ideas in relation to geological changes and earthquakes, which I have not yet heard advanced. We are living upon a sphere which revolves around the sun,—not in a perfect circle, but with an orbit of an elliptic form; and at the same time it is making 365 revolutions per annum, upon its own axis.

Now the question naturally arises, does one motion affect, or have any influence, upon the other? I cannot but think it does. Thus, as it passes from the flat side of the ellipse to the ends,—or in other words, from a long curve to a short one,—the two forces embodied in the earth must necessarily have a twisting effect—the orbit motion on the revolving motion,—consequently gradually changing the position of the poles and equator.

We have various facts that go to prove that this change does take place; for instance, we find the remains of plants and animals imbedded in coal beds and rock in the Frigid Zone, which are now known to inhabit none but the Torrid Zone. How came they there? Simply because the equator was once there. Professor Agassiz has also discovered the remains of immense glaciers in the Andes of South America, directly under the equator. How came they there? Only by once having had one of the poles at least nearer than at present. Now admitting that this theory of the changing of the poles is correct, let us see what the effect would be upon the globe. The earth is said to be about forty-five miles thicker through at the equator than it is at the poles; making twenty-two and one-half miles depression of the ball on each side of the equator; and as it is about six thousand miles from the equator to the poles, we have a down grade of about *nineteen feet to the mile.* If the earth's motion were stopped, the water from the equator would commence rushing to the poles and fill up that twenty-two miles and a half, or until all parts of the surface of the earth would be at an equal distance from the center. But as the earth revolves at the immense velocity of about one thousand miles an hour, it throws back the waters from the poles towards the equator sufficient to counteract the attraction of gravitation on the down grade to the poles, and keeps up a perfect equilibrium; and the waters remain comparatively of a uniform depth. If the solid earth were not of spheroid shape, but perfectly round, there would be all land at the poles, and all water at the equator.

The point that I wish to advance, hearing upon geology and the causes of earthquakes, is that as this change of the poles goes on, the surface of the earth must necessarily change with it, for if it did not, the earth would get out of balance, or in other words, would not run true, and would soon make a wreck of itself. But if the earth is a shell inclosing soft material, as most geologists concede it to be, then the crust would necessarily yield and conform itself to that motion; and as the surface is composed of two substances, a fluid and a solid, of course the fluid, which predominates, is always ready to yield to it, as we see exemplified in our ocean currents, which are constantly flowing from one part of the world to another, to keep it in perfect balance. This, too, is probably the reason why we have so much more water upon the surface of the earth than land, for God never made anything for naught. If the land predominated, it would have an unsteady motion, and would evidently destroy itself. We have had an evidence of the changing of the ocean currents since the earthquake at St. Thomas, as it is said that the Gulf Stream has changed several degrees since that event, from its old course; and perhaps in a few thousand years, or after a few more such earthquakes, the stream may be destroyed entirely, or flow in some other direction to supply some deficiency created elsewhere.

I have endeavored to show the effect of this change of motion upon the fluid part of the earth; now let us see what effect it would have upon the solid portion. Of course that must yield and conform to it also, but as it is not free to move like the water, it will have a tendency to rise up bodily at the equator and sink down at the poles; but when it moves it goes in small sections at a time, and gives way with a sudden jar or quaking motion. If it is in a portion of the world that is rising, there will be two distinct shocks; one is the upward motion, the other is the vibration of the rocks caused by that motion. If it is in a portion of the earth that is sinking, there will be but one shock at a time, a sudden downward jar, for it tightens on the surface and prevents any vibration; and the latter consequently are less destructive. Upheavals loosen the surface, set it to vibrating, and are therefore more destructive in their effects.

Thus the earth gives way, first in one part, then in another, in one hemisphere, and then in another, on the land, and under the ocean; and I venture to say that there is not a day passes in the year but there is an earthquake in some part of the world, perhaps not an hour. If it should give way in large sections at a time, they would be so destructive that it would render the world uninhabitable; but by a wise provision of nature the rocks are full of joints and seams, allowing the crust of the earth to move in comparatively small sections.

As I before remarked, we have twenty-two and one-half miles of difference between the extreme elevation of the equator, to the extreme depression of the poles, (deducting the difference between the freedom of the water, and the resistance of the rocks to move); therefore an abundant margin to go upon, in concluding that there is here cause enough to submerge the highest mountains or make dry land of the lowest depths of ocean. If the geologist will apply this principle to his science, he can readily account for all the geological changes which are constantly going on in the earth; for as one portion of the earth is lifted above the water, and as the vapors of the ocean rise and float over the land, the latter is condensed, falls in the shape of rain, and washes off the loose particles into the ocean, where each particle of a like specific gravity will be deposited in strata of like character, and by the immense pressure of the ocean they will be speedily converted into rocks, to be again submerged. And thus the work goes on from age to age.

The idea has been advanced that earthquakes are caused by electricity. Would it not be better to say that the appearance of electricity on such occasions is the *result*, and not the *cause* of the earthquake. Let us see which theory looks the most reasonable. We know that friction excites electricity; and if an earthquake takes place, there must be a powerful friction, in the joints or crevices of the rocks. We see the evidence of this immense friction of one mass of rock upon another, in working our quartz veins. There will always be, in a true fissure vein, on one side of it, a thin stratum of clay, or very finely pulverized rock, which I know of no way to account for but by the friction of the adjoining rock caused by the earthquakes. These same veins themselves are nothing more than immense cracks in the rock, caused by the earthquakes, and filled again by the circulation of the waters of the earth containing minerals. Like the blood of the human system, which is always ready to repair any injury done to it, so the waters of the earth—its blood—are ever ready to perform a like office.

William A. Begole.

Nevada, Feb. 18th, 1869.

Mechanical Progress in China.—Amongst the numerous evidences of the great changes that have begun in the Flowery Kingdom is the report, by the last steamer, that fresh artisans from Woolwich have been engaged at the Nanking arsenal, and that a small steamer, native owned, managed and engineered, is running from the Yangtze to Soochow, on the grand canal.

More Smelting.—Swansea is a new town in the White Pine district, about half a mile above Silver Springs. Smelting works are being erected there, and are promised to be in operation in a few days.

[Written for the Mining and Scientific Press.]

Explosives and their Uses.

New York Society of Practical Engineering held a regular meeting on Tuesday evening February 2d, at room 24, Cooper in the chair. The regular topic for the Institute, the President, James A. Whitney, evening was "Explosives and their Uses," and a paper on that subject was read by Dr. Dubois D. Parmelee. The paper first glanced at the history of gunpowder and inflammable compositions generally, referring their origin to a very early date in the history of the eastern nations. The formation of a large volume of gaseous material and its composition, and the effect of heat on the dilation of the gases produced was next discussed. The writer then passed to a consideration of the accidents due in many cases to the fact that precautions essential to safety in the manufacture of the explosive have been neglected. A method has been proposed for rendering gunpower less dangerous, consisting simply in diluting the powder with finely pulverized sand or glass. By this means the grains are separated from each other, and although the process does not prevent the burning of gunpowder when a spark reaches it, has yet the effect of retarding the combustion and preventing a violent explosion. The great objection, however, to this process, lies in the fact that the sand is liable to become separated from the gunpowder during transportation, and the former dangerous properties of the latter are renewed. The writer then gave a description of several compounds and preparations explosive in their character, among which we notice the following: The *pulvis fulminus* is composed of two parts of carbonate of potassa, one of sulphur, and three of nitre. When heated gently to fusion it explodes with a deafening noise. Augendre's white gunpowder, consisting of chlorate of potash, ferro-cyanide of potassium, and sugar; this was tried many years ago, and failed. An invention of Mr. Harsley and Dr. Ehrhardt, consists of a mixture of chlorate of potash with organic substances of a permanent character, such as tannic acid. This mixture is stated to be more powerful than gunpowder. An application of chlorate of potash has been proposed by M. Nochstaelter, a German chemical manufacturer. In the process for effecting this end, unsized paper is soaked in and coated with the chlorate, charcoal and sulphide of antimony, together with gum or some other substance of a binding character. The paper rolled up compactly burns with considerable violence. An explosive preparation which has been employed to some extent in blasting, consists of spent tan in small fragments saturated with chlorate of potash. Gun saw dust consisted of purified lignin converted into a substance of the nature of gun cotton, and then, when required for use, impregnated with saltpetre or a mixture of this with nitrate of baryta.

Gun cotton and its explosive properties were then considered. One pound of this material was stated to produce as much gas as three pounds of gunpowder. It is formed by exposing cotton prepared from finely carded and carefully purified cotton wool to the action of sulphuric and nitric acid of certain specific gravities. During the process of manufacture the cotton increases in weight about 78 per cent. One of the great difficulties in the way of using gun cotton as an explosive is its rapid combustion. One of the most successful expedients for modifying this is to dilute the gun cotton with raw cotton. Cartridges formed of this material burn more slowly than cartridges formed of pure gun cotton. A plan has also been put in practice for reducing the gun cotton to a pulp, as in the process of paper making.

The properties of nitro-glycerine as an explosive agent were next discussed. It is formed by the action of a mixture of strong nitric and sulphuric acids upon glycerine, the apparatus all the time being kept at a low temperature. The nitro-glycerine forms upon the bottom of the mixing vessels after standing for a few hours. It has a sweetish taste, no odor, and when placed upon the tongue produces headache. When left to itself it is exceedingly liable to spontaneous decomposition. Its destructive action has been estimated at about ten times that of gunpowder. Its frozen state is an exceedingly dangerous condition, for then a blow producing friction of the particles is apt to cause explosion. The writer closed his paper by describing the fuses employed for exploding charges of nitro-glycerine. The Bishop fuse, now in use in this country to a considerable extent, has two copper wires about five feet long insulated with gutta percha. The ends of these wires are fixed in a small wooden tube containing a priming powder. This tube is inserted in a copper cap containing the fulminate. The fuse is then connected with an electric machine by long wires and the charges exploded by the passage of the electric spark.

The reading of the paper was followed by some remarks on the subject of nitro-glycerine by Col. Chester, a gentleman who has had much to do with the material in blasting. He described the process by which the mixture is kept cool during the mingling of the ingredients. A glass tube passes down into the mixing vessel connected with a gasometer containing carbonic acid gas under pressure. The tube is furnished with radial arms bent at their extremities in a horizontal plane and perpendicular to the original direction of the arms. As the mixing of the ingredients warms the liquid, the escape of the carbonic acid gas through the arms, cools it. The principle here involved is that the gas escaping from pressure absorbs heat and renders it latent.

Dr. Bürsthinder, who has had considerable experience in company with Colonel Chester in the use of nitro-glycerine, then addressed the society. He remarked that the most important point in the employment of this liquid as regards safety, is the making of the material upon the spot. When this is carried out it is a much less dangerous article than gunpowder, while, if it be allowed to stand for a few months; it may decompose so much as to become exceedingly dangerous. It possesses an important advantage over gunpowder, in the fact that it requires no tamping.

The President spoke of the difficulty at first experienced in the introduction of gunpowder, as analagous to that experienced in the introduction of nitro-glycerine, and expressed a belief that the latter will soon be recognized as an important explosive agent. The meeting then adjourned to meet again in two weeks.

The Lone Pine Mint, says a correspondent of the *Sacramento Union*, is in active operation. The owner, superintendent and workmen, are combined in the person of Charles H. Aaron, who is also a correspondent of the Mining and Scientific Press. The coins are one-eighth of an inch, more or less, in thickness, with rounded edges and somewhat convex sides. Aaron buys silver which has been run through a furnace or base at Cerro Gordo, and refines it in a small furnance. Some gold, which is generally obtained from Coso, is melted with the silver. After the mass of seething metal has become sufficiently pure, it is poured into cold water, where it becomes finely granulated. From thence it is taken to a pair of delicate scales and carefully weighed and divided into small piles. Some of these bunches weigh 86-100 of an ounce, the remainder weighing 1 72-100 ounces, or nearly two ounces. Thus evenly divided, the metal is placed in separate crucibles and remelted. A very small iron pot is now brought forward, and a crucible taken out of the furnace, where its contents have been subjected to a high degree of heat, and the boiling metal is poured into the iron pot. After the liquid has become solid, the new coin is taken out and another coin is run. This operation is continued until all the crucibles are empty.

We have before us two pieces of silver which were formed in the above manner. One of them is a dollar and the other two dollars. The figures 86 on one side of the dollar show its weight, and on the other side are the initials "C. A.," immediately below which is stamped "$1." The two dollar piece, besides the mark indicating its value, is stamped "C. H. A.," and on the opposite side, "172."

Valuable Patents.—Mr. Bessemer derives an annual income of about $2,000,000 from his British steel patents, and the patentee of a device for dressing mill-stones by a revolving diamond, has realized over $1,000,000 the first year of his patent. The use of a diamond for this purpose is an American invention, and the estimated value of the exclusive right in England, for ten years, is $5,000,000.—*Hazeltine, Lake & Co's Circular.*

Mechanical.

THE HEATON PROCESS.—The English papers are still full of this subject. We have repeatedly referred to this method of steel making, and have given the comments of *Engineering* and its correspondents. A recent number of that journal gives a summing-up of the experiments which were made, and upon which Prof. Miller's favorable opinion was founded. We have not space for the figures, but quote two paragraphs from the article,—the latter of which two is the concluding one: "It is unnecessary here to refer particularly to the chemical principles on which this method is based; the main question is as to the result, and a careful examination of the chemical data hitherto published to elucidate that result is, alone, calculated to confirm and justify much of the adverse comment which Heaton's method has called forth." * * "Altogether, then, it is evident that the *rationale* of this method is involved in much obscurity, and that from a chemical point of view there is room for considerable doubt as to what is really the result obtained by its application to pig iron containing phosphorus and sulphur. These circumstances alone certainly justify the demand for much fuller information than has yet been furnished, so that a fair opportunity may be afforded of arriving at a correct estimate of the method."

PUMPING ENGINES.—In a comparison of the relative merits of the Cornish and the Fly-wheel pumping engines, by Robert Briggs, in the *Journal of the Franklin Institute*, for January, the writer shows that, in the first, the power is applied to the raising of a counterpoise from which is obtained the utmost possible effective impulse for the purpose of raising the column of water; while in the other, the tendency of the fly-wheel to a variable velocity, owing to variable impulses, being opposed to its effort to maintain a uniform one, there is a waste of power. The concluding sentence of the article is as follows.

"It is the losses of momentum and the frictional resistance of the water in the pumps, and passages, and pipes encountered in the transformation of a uniform circular motion into an irregular and rectilinear motion, that give the theoretic as well as practical superiority of the Cornish engine over any possible Fly-wheel one for pumping."

BELTING.—Among the "belting facts and figures" compiled by the *Journal of the Franklin Institute*, we find the following: "A leather belt will safely and continuously resist a strain of 350 pounds per square inch of section. The usual way of joining the ends of a belt—that is, by means of the leather thong—is the best after all, because it is the most convenient; the thong being an article more readily obtained and applied than any other of the numerous and ingenious means devised for securing the ends of a belt.

In the use of thongs, it is the practice of some engineers to cross them in lacing on both sides of a belt; with others to cross them on the outside only, laying the double strands evenly on each other in the line of motion and on the pulley side of the belt, which experience proves to be the better way."

STEAM-POWER TRANSMITTED.—The Portland and Kennebec Railway Company have run a 3-inch pipe from boiler-shop to machine-shop, a distance of four hundred and fifty feet, conveying steam-power for driving two engines of twenty-five and fifteen horse-power, carrying all the machinery of an extensive establishment. The pipe is four feet underground, is inclosed in three-quarter inch hair felting, and encased in a 7-inch box filled with calcine plaster. It has three slip joints to prevent breakage by expansion. When there is a pressure of 80 pounds of steam at the boiler, the same pressure is maintained at the other end of the pipe. The new arrangement is found to work admirably, and will be a great saving in machinery, labor and fuel.—*Railway Times.*

SPECIFIC GRAVITY OF STEEL.—M. Caron has noted that the specific gravity of steel diminishes with the number of times it is tempered.

SHARPENING OF FILES BY CORROSION.—Prof. Wurtz translates for the *Gas Light Journal*, from the *Chemisches Centralblatt*, the following directions for restoring worn-out files by means of acids: The files are first washed with a hot lye of soda, and all grease removed with brushes. They are then suspended in a mixture of concentrated nitric acid with eight parts by measure of water for twenty-five minutes; then well cleaned in water with brushes, and re-immersed for twenty-five minutes more in the acid mixture with addition of another eighth of strong acid. Brush again and re-immerse, after adding to the bath a 16th part of concentrated sulphuric acid. This heats the bath, and the etching proper now commences, and is kept up for three minutes, with a vibratory motion of the bath. Wash and brush and re-immerse in a bath similar to the last, with similar agitation for five minutes. Wash repeatedly with water, then with milk of lime, finally rinse again with water, dry quickly at a gentle heat and varnish while still warm with oil.

INFUSORIAL SILICA FOR CEMENT.—The following is from the *Mechanics' Magazine:* Böttger informs us that a cement of extraordinary binding power is made by using infusorial silica in place of quartz sand. This infusorial earth is found in Germany only, but it has been imported into this country in considerable quantities. It consists of hydrated silica, which combines with bases much more readily than silica in the anhydrous condition, as in quartz sand. The infusorial silica is mixed in about equal proportions with oxide of lead; about half a part of freshly slacked lime is then added, and the whole is then made into a paste with boiled linseed oil. The cement thus made quickly becomes as hard as sandstone, and will be found extremely useful in such work as fixing iron in stone for balusters and railings. It is not likely to expand in setting, and thus no risk of splitting the stone will be incurred.

PRINTING IN COLORS.—The *Tribune* describes the new press, by which the simultaneous printing in several colors is accomplished. Its novelty consists in the adjustment of a series of secondary cylinders around the main printing cylinder. To each of these secondary cylinders are attached fountains, distributors, and rollers for distributing and rolling each color separately; and to this cylinder is also attached the electrotype whose impression is to be given to the paper in its passage over the main cylinder. The final impression, being black, is received by the form on the bed-plate, in the usual manner; and the paper comes forth with its illustrations impressed in seven colors, as well as with the ordinary letter-press—all done at one revolution of the cylinder.

UTILIZING IRON TURNINGS.—A very simple and efficacious method of utilizing the abundant refuse of the machine shop, has just been patented by Mr. Edward Hammond Bentall. Iron cuttings, borings, or turnings are placed in cases of sheet iron, capable of containing about one hundred weight of the waste iron; the case, when filled, is submitted to the heat of a reverberatory furnace. When brought to a white heat, it is stamped with stampers, or put under severe pressure, which, owing to the highly heated and partially softened state of the metal, will convert it into a solid plastic mass or bloom.—*The Student.*

CEMENT FOR LEATHER.—The best is made by mixing ten parts of sulphide of carbon with one part of oil of turpentine, and then adding enough gutta percha to make a tough thickly-flowing liquid. One essential consists in freedom of the surfaces to be joined from grease. This may be accomplished by laying a cloth upon them and applying a hot iron for a time. The cement is applied to both pieces, and pressure applied until dry.

GRADES UPON RAILROADS.—It is found by calculation and experiment that heavy trains may descend a grade of 1-100th without attaining a greater speed than about forty or fifty miles per hour, even if allowed to run freely without applying the brake to check the speed. The velocity due to the accelerating force of gravity soon attains its greatest limit, and remains constant during the remainder of the descent, owing to the resistance of the air.

Scientific Miscellany.

Chemical Reactions Produced by Light.

Professor Tyndall recently read before the Royal Society, a remarkable paper, detailing some of his experiments with the vapors of volatile liquids. A glass tube was exhausted of air, and a given vapor then allowed to enter it together with air which had been purified. An electric lamp placed at one end of the tube, sent a beam of intense light lengthwise through this mixture of air and vapor. The effect upon the different vapors experimented upon, was various and remarkable. In some cases, the beautiful clouds which were formed, exhibited the appearance of leaves and flowers. Each vapor had its own specific cloud. "With vapor of nitrite of amyl, a shower of liquid spherules was precipitated on the beam. With a modification of the beam, the precipitation was so rapid and intense that the cone formed by the beam, before invisible, flashed suddenly forth like a luminous spear. With iodide of allyl, the vapor column revolved round the axis of the decomposing beam, drawn in at certain places like an hour-glass, while delicate cloud-filaments twisted themselves in spirals round the bells of the apparent hour-glass. With iodide of isopropyl the vapor formed globes and cylinders, which were animated by a common motion of rotation, disturbed at times by a paroxysm, in which beautiful and grotesque cloud-forms were developed, some representing a serpent's head, others buds which seemed to grow into flowers, and all of a gorgeous mauve color. With hydrobromic acid the cloud resolved itself into a series of disks and funnels, then parasols and rings of a very pale blue color, and all rotating as in the former instance.

"With hydrochloric acid the cloud requires twenty minutes for its full development, but then it appears in sections, each possessing an exceedingly complex and ornate structure, exhibiting ribs, spears, tunnels, leaves, involved scrolls, and iridescent fleur-de-lis. With hydriodic acid another modification is seen, having a family likeness to the two immediately preceding, but with marked differences of development, for the green and crimson produced were the most vivid that Dr. Tyndall has yet observed. The development of the cloud, as he describes, was like that of an organism, from a more or less formless mass at the commencement, to a structure of marvelous complexity, at which he "looked in wonder for nearly two hours.'"

The different vapors are in these experiments differently decomposed. "Certain specific waves of the electric beam shake the molecules asunder."

Prof. T. anticipates "wide, if not entire, generality, for the fact that a liquid and its vapor absorb the same rays."

In this connection, we give this item: At a recent meeting of the Photographic Section of the American Institute, Professor Joy read the following extract from a private letter which he had received from Professor John Tyndall:

"My daylight hours have been recently occupied with the question of the chemical action of light upon vapors, and also with the blue color and polarization of the sky. These questions, which have been so long the great enigmas of meteorology, have, I hope, at length been brought within the grasp of experiment, and have been, to a great extent, satisfactorily solved. The condensed summary of my results is at the present moment in the hands of Sir John Herschell, who has manifested great interest in the inquiry. As soon as he sends it back to me I shall hasten its publication, and it will give me great pleasure to send you a copy of it."

PRUSSIC ACID IN THE LABORATORY.—M. Berthelot has just discovered that when a series of electric sparks is passed through a mixture of nitrogen gas and acetylene, or any hydrocarbon, in presence of a little potash and a certain quantity of hydrogen, prussic acid is slowly formed and absorbed by the potash.

PHOTOGRAPHING THE PYRAMIDS.—An expedition has started from Germany to visit Egypt, for the purpose of making a collection of photographic views of ancient inscriptions and monuments.

NATIONAL INSTITUTE OF SCIENCES, LETTERS AND ART.—On December 29th a meeting was held in New York, for the purpose of organizing a National Institute. A Constitution was after several preliminary meetings adopted, which was founded upon that of the French Institute, although of course modified according to circumstances. Several Academies will be organized under this Constitution.

The following circular was sent to the leading scholars of the country:

"The lack of any means of easy intercourse and free communication, and consequently of united effort and mutual support, has been felt for some time past by men of letters, artists, and scientific men in the United States. They constantly find themselves reminded of this lack by their weakness as a class, because although a class they are not a body with a recognized organization. Scattered over a wide expanse of country, they are, from this dispersion and this want, no less morally than physically isolated. There is no authority other than the temporary and shifting, although in some respects valuable one, of public opinion, by which their claims may be passed upon—no tribunal of their peers or of those of their own class to whose experience and judgment they would willingly defer—no representative council, the stamp of whose approval would be acknowledged by the public as well as by themselves. From the lack of such a center of union, of communication, and of combined action, they, and with them the cause of truth and knowledge, and the public welfare, suffer. In the hope, therefore, of compassing these objects, we propose to establish a National Institute of Letters, Art and Science, upon a plan outlined in a Constitution accompanying this Circular. We ask your coöperation."

The *American Naturalist* says:

"If, as it promises to do, the National Institute will bind together and thus efficiently guide and control the army of workers in letters, science and art, a new era has dawned for the development of knowledge and its practical results in America."

THE LAND OF THE NJAMNJAMS.—The French brothers Poncet, and Piaggia, an Italian traveler, have penetrated to longitude 24° E.—seven degrees west of the White Nile, and nearly to latitude 1° N. They have established the fact of the existence of another immense lake, lying on the equator, out of which flows a river, Babura, in a northwesterly direction, towards the Benui and Lake Tsad. Piaggia spent nearly two years among the Njamnjams, who are tailless, but cannibals. He was kindly treated by the chief, and was only prevented from reaching the new lake by civil wars. The account is one of the most important recent contributions to the geography of Central Africa. It is accompanied by a map of the region, by Dr. Petermann.

UREA FROM CARBONATE OF AMMONIA.—Basarow has discovered that *anhydrous carbonate of ammonium* is converted into *urea* by heating in a sealed tube to 130° C. (266° F.) The carbonate he obtained by the action of CO_2 on NH_3 dissolved in absolute alcohol. He has observed that the same result, conversion into urea, follows to a notable degree, upon the subjection of commercial carbonate of ammonia to a temperature of 130—140° C.; whence he infers that this latter may contain the anhydrous carbonate of ammonium. The following equation will make clear the theory on which Basarow based his investigation:

$$2(NH^4O, CO^2) = C^2H^4N^2O^2 + 4HO.$$

Gas Light Journal.

RENEWED POLAR EXPLORATIONS.—Dr. Hayes delivered a lecture in November last in New York, before the American Geographical Society, in which he proposed the renewal of explorations in the North Polar regions, and gave his reasons for believing that they could be successfully accomplished. He urges the "American route" by the way of Smith's Sound. This route is familiar to him, and he says he is as earnest as ever in his desire to lead a party over the course. The lecture has been printed in pamphlet form, and now the question is whether the men of wealth will aid the enterprise.

California Academy of Sciences.

A regular meeting of the Academy took place on Monday evening, March 1st, the President, Dr. Blake, in the chair, and fifteen members present. Dr. George Hewston, A. Earenstein, James F. Breed and Mr. Easton, were elected members.

METEOROLOGY.

The subject of Meteorology was introduced hy the President as regularly before the Society, for consideration. Dr. Henry Gibbons stated that no part of the world occupied an analagous position to California, as we had three climates—one in Southern California, near Mexico, one in the northern portion of the State adjacent to Oregon, and one in San Francisco. It was seldom that so long a mountain range was found parallel to the meridian line. The telegraph he thought could he made useful in San Francisco as an indicator of storms. He spoke of an occasion when he was at the Smithsonian Institute at Washington, where daily or hourly reports of the weather are received from all parts of the Atlantic States. On that occasion he sat down with Prof. Henry before a large relief globe, and located the storms as they were reported. In this way they traced a storm as it was approaching, hundreds of miles away, until it finally burst upon the city. He said that had he heen placed five hundred miles above the earth, and could have looked down upon the atmosphere, he could not have obtained a better view of it than he did on that occasion. The phenomenon of storms was a most interesting one, particularly here, where the prosperity of the whole State depended on rains. An almost certain prognostic of rain was the occasion of three hot days in succession. We had just experienced three hot days, and the rain he expected would soon he here. Three hot daye alwaye followed a Norther, and rain followed the three hot daye.

Professor Davidson and Dr. Ayers were named as suitable men to act on the proprosed Meteorological Committee, the latter having given much attention to the subject it was stated. Colonel Williamson was named as a suitable member, and also Mr. Mumford. The matter of appointiug a committee was postponed to the next meeting.

THE SAN JOSE MEAT SHOWER.

Specimens of some meat that fell from the sky at San José recently, were presented by Dr. Kellogg. He gave an account of the fall of meat over twenty acres of ground, as learned from an ohserver, Mr. Houck, aud said he was informed that nerves, muscle and hone were found, some imhedded in the soil, helonging either to small animals or fish. This meat was alleged to have fallen about three o'clock P. M., when the sky was clear, and to have struck persons upon the shoulder. Reports were read from persons at San José, in which it was stated that flesh, brains, blood and bones covered an area of twenty acres. The samplee of the flesh introduced had a fishy smell.

A member argued that during the recent flood multitudes of gophers and squirrels were drowned, and it was likely that this fleeh was the remains of those small animals after they had beeu picked by hawks.

Another memher thought that they might have been carried up by a whirlwind, which might have lifted even larger animals, such as cattle; or that if it was the remains of fish, it might have been carried up from the eea by a waterspout. The President stated that there had, no douht, been showers of frogs ere now.

Mr. A. F. Beardsly said such a shower occurred in Tenuessee eome yeare since.

Dr. Henry Gihhons eaid the lightness of the bones would not let them be imbedded in the earth by their weight, bnt an overflow might do so. The disgorging of flesh and bones by birds was not uncommon. They throw up and let fall such things from time to time, and in over-dry atmosphere these fragments would not corrupt.

Dr. J. G. Cooper eaid only the indigestible parts would be disgorged, while the digestible parts were what was found. These pieces might have been washed from some slaughter house.

Mr. Beardsly said rats were often found with their skins turned wrong side out, and all the flesh gone; so also were rabbits, squirrels, and gophers.

Mr. H. G. Bloomer asked what effect waterspouts had on animals taken up in them.

President Blake thought a whirlwind could not tear things to pieces as these things had heen torn.

Dr. Kellogg eaid he had seen it done on the hardest substancee, trees, rocks, etc.

Mr. Beardsly said such a case occurred at Gold Hill, in 1862, when a whirlwind took up 4,000 feet of lumber and tore it all in shreds.

Mr. H. G. Bloomer asked if a microscopic examination had heen made of the hones sent here from San José.

Dr. James Blake said they had heen examinecl, hut not with sufficient care to determine the kind of animal they helonged to.

MAGNETIC STORM.

A communication was read, from W. F. Stewart, stating that a magnetic storm occurred at a place near San José, in which the needle suddenly varied greatly. Mr. Herman was making a survey, and saw the needle whirl suddenly around. Dr. Blake said he had seen the needle dip in San Ramon Valley, Contra Costa county, far more than on this side of the mountains.

DONATIONS AND SPECIMENS.

A numher of hooks on Microscopy, etc., were donated by Mr. Stretch.

A specimen resemhling coke, strikingly like authracite, heing a residuum of petroleum from Downersville Foundry, at Corey, Peunsylvania, was presented to the Society by A. F. Beardsly.

A specimen of the *Dendrocygna arborea*, or long-legged duck, recently arrived from Mexico, and found in our market, was exhibited by Dr. Cooper.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

FOR THE WEEK ENDING FEBRUARY 2d.

86,348. — IMPROVEMENT IN CARRIAGE SPRINGS.—John Balbach, San José, Cal.:

I claim the adjustahle thorough-hrace F, right and left haud screw-holt L, spring B, and fixed standard A, combined and arranged substantially as described for the purpose set forth.

This inventiou relates to an improvement in carriage springs, and it consists in a eingle leaf without any holes in it, so attached to the reaches, and supported by standards or braces, that in combination with the straps which support the carriage body it forms a perfectly easy spring and without any strain on the reaches.

86,371.—IMPROVEMENT IN CHURNS.—G. A. Dabney, San José, Cal.:

I claim the comhination of the dasherhandle F, lower dasher G H, adjustable upper dasher I J, tuhe K, and detachahle guide-frame B D, with each other, suhstantially as herein shown and described, and for the purpose set forth.

86,375.—IMPROVEMENT IN HARVESTERS.—Sharron P. Doane, San Francisco, California, assignor to Self and Leonard Treadwell, of same place:

1. I claim the levers I I, shaft K, arm N, and rods M and O, combined and arranged substantially as described for the purpose specified.

2. In combination with the levers I I, supporting a harvester reel, the arrangemeut of the pulleys U and V, on au axis forming the fulcrum of one of said levers, substantially in the manner and for the purposes described.

This improvement consists in so connecting the reel which brings the standing grain to the knives, that it is instantly adjustable and can be raised or lowered hy the driver when necessary. This is accomplished by attaching the reel to the frame of the machine by levers at either end, and more especially so that the belts are not effected by raisiug or lowering the reel. These levers are connected by another series with a hand lever by which the whole are operated, and which is within easy reach of the driver.

86,379.—IMPROVED APPARATUS FOR SAVING GOLD AMALGAM AND QUICKSILVER.—George R. Evans, Virginia City, Nevada, assignor to Self and John White, of same place:

I claim the curved plate A, slotted at *a a*, together with the box C, having the partitions D D, with the slots E E and F, the whole constructed and operating substantially as herein described.

This is a corrugated riffle, of amalgamated irou or copper, which has recently attracted considerable attention in Gold Hill, Nevada, where it has beeu introduced. It is described in our issue of Oct. 17, 1868.

86,388.—IMPROVED APPARATUS FOR SAVING FLOATING GOLD.—David Gay, Jr., Vallejo, Cal.:

1. I claim surrounding a hollow cylinder of light material A, either inside or outside, or both, indented and amalgamated metal plates *a* and *b*, or equivalent device for gathering the gold from auriferous sands on the heach, suhstantially as described.

2. I claim the spindle C, rotating in the metal plates D D, and the supporting arms *c c c*, in combination with the hollow cylinder C, or equivalent device, suhstantially as described.

3. I claim the cahle E, when attached to the hollow cylinder A, together with the anchor F, for regulating the movements of the cylinder, substantially as described for the purpose set forth.

4. I claim washing the auriferous sands on the sea shore hy means of amalgamated surfaces, either cylindrical or otherwise, when the same is operated by the surf or waves of the sea, suhstantially as and for the purposes described.

An apparatus for heach gold washing, consisting of a series of rolling logs or cylinders, anchored in the surf. The claims explain the device.

86,392.—BEARING FOR SHAFTS.—Jerome Haas, Stockton, Cal.:

1. claim the combination of the cam groove E, roller H, lever F, and pump D, for forcing a lubricator beneath the shaft, substantially as described.

2. In comhination with the ahove claimed device the discharge cock J, operated hy the crank or arm O, adjustahle rod N, lever K, and groove M, suhstantially as and for the purposes set forth.

This invention relates to an improved device known as an anti-friction etep or bearing for shafts, it heing applicable to propeller shafts and all such as have a horizontal throat, but more especially as a step for vertical ehafts, and it consists in the introduction of water beneath the end of the shaft, hy a pressure sufficient to slightly elevate it. This is accomplished by means of a small force pump, operated by the revolution of the shaft, while, by means of a discharge cock on the opposite side—also operated by the shaft—the elevation to which it rises is always regulated and controlled.

86,601.—IMPROVEMENT IN GATE LATCHES. John W. Still, San Francisco, Cal.:

I claim the spring B, hook C, handle D, and plate or catch G, combined and arranged to form a gate or door fastening, euhstantially as herein described.

This gate latch can be easily operated from either side of the gate. It cannot be opened by cattle. The latch is in the form of a hook, having a suitable place arranged, in which the fingers may be placed to draw back the hook in order to unlatch the gate. The hook is attached to the gate so as to leave a connecting epring between it and the attachment, aud an inclined slot is cut in the gate beneath the spring, to allow the hook to be drawn back. The inventor is now engaged in manufacturing his improved latch, which can be made and sold cheap.

86,475. — IMPROVED BOOT AND SHOE STRETCHER—Perry Veitch, San Francisco, Cal.:

I claim the comhination in a boot and shoe etretchiug last of the adjustable sections A and B, provided with the plates *a* aud F, and screw D, with the hinged adjustable instep H, and adjusting screw J, substantially as described and for the purposes specified.

This is a very simply but evidently effective device for etretching the toes of boots; consisting of a last with a split toe, operated by a screw.

86,474. —IMPROVEMENT IN GUIDES FOR SEWING MACHINES.—W. H. Vau Vlear, Stockton, California, assignor to Self and William E. Greeu, of same place:

I claim the guide *a*, provided with the toe *a'* and the spring flauge *b b*, as and for the purpose specified.

86,489. — IMPROVEMENT IN LUBRICATING JOURNAL BOXES.—Ephraim A. Atwood, and Harry H. Bodwell, of San Francisco, Cal.:

We claim the box A B, having a reservoir C, hung below the shaft F, said box heing provided with the circumferential grooves x x, passages G G, and *y y*, and with an elastic surfaced-wheel D, all as herein shown and described.

The wheel above meutioned carries the oil upwards, therehy repeating its use. The dévice is used by the inventors in the construction of their windmills. After well testing they consider it a very effective lubricator.

86,608.—IMPROVEMENT IN GANG PLOWS.—J. Tustin, Portland, Oregon:

I claim the levers A B C D E, the links G and F, (in which may he rotated the hent axle R) the bent axle R, aud the latch I, when used in the manner described and for the purposes set forth.

86,564.—IMPROVEMENT IN ELEVATOR AND TABLE FOR FEEDING GRAIN SEPARATORS. Don Carlos Matteson and Truman Pane Williamson, Stockton, Cal.:

1. We claim the cross har D, and the boxes or eyeholts E E, suhstantially as and for the purpose specified.

2. We claim the hinged-drop bar K, and the holding-hraces N N, constructed and operated substantially as and for the purposes herein described.

86,565. — IMPROVEMENT IN HORSE HAY FORKS.—Don Carlos Matteson and Truman Pane Williamson, Stockton, Cal.:

1. We claim the plate O, with its lugs M M and *u*, and the spur P, constructed and arranged suhstantially as herein described.

2. The stirrup A passing around the post N, suhstantially as and for the purpose described.

The last patentees named have made quite a number of improvements in agricultural impliments during the past few years. Their inventions are worthy of a full notice, which we shall be able to give next week.

New Inventions.

GAS FROM BITUMINOUS SHALE.—Jacob E. Bowman, of Sacramento, has entered a caveat for a new method of manufacturing gas from the hituminous shales found along the railroad in the foothills, and taken hy many to be coal, but which will not burn. The cost of the apparatus for the largest house will not exceed $80.

NEW SHINGLE MACHINE—A machine for shaving sawed shiugles has heen invented hy H. C. Babcock, of Humholdt county. The thick end of two wedges iu the ehape aud of the length of a shingle are each placed hetween the edge of two knives, one over the other, and with their edges toward the thin edge of the wedges. The guards, wedges and shingles are stationary. The butt end of the shingle is placed between the edges of the knives, and the knives are drawn to the thin ends of the wedges. In front and behind the knives are two sliding platforms, each with a gutta percha roller next to the knives; the oue to force the shingle betweeu the knives, and the other to remove it when shaved. The knives and platforms are connected hy iron rods. A fixed frame is placed over the eliding platform in front of the knives to hold the shingles. A knife and spring are attached to the end of the platform furthest from the shaving knives to edge and feed. The platforms and knives move horizontally.

FOARD'S VACUUM VENTILATOR.—Mr. J. W. Foard, Deputy-Collector of S. F. has taken out a patent, says the *Times*, the object of which is to ventilate ships by means of horizontal draught pipes near the deck, through which the winds circulate, the same heing connected hy vertical euction pipes with euch parts of the hold as are to be kept nnder perfect ventilation. The air rushing from the hold through the perpendicular pipe is the same in amount and velocity as that which is impelled through the horizontal pipe by the movement of the vessel. The ventilator being an exhausting apparatus, Mr. Foard places it as far aft on the ship as practicable, and provides an opening as near the how as may be, to let in air; when, with every other part hermetically sealed, there must be a current under the ship'e decks, from bow to stern, in exact ratio to the size of the ventilator, meanwhile effectively preventing the admission of rain into the ship through the pipes, The invention is responsive to one of the most important problems that has come up, in connection with commercial navigation, how effectually to ventilate ships so that damage to cargoes so common from sweating, may he prevented. It is said to accomplish the purpose in ships, and is to be adapted to theatres, hotels, churches, mines, and railroad cars.

NOURISHMENT IN BEER.—Professor Liehig says that fourteen hundred and sixty quarts of the best heer, contains exactly the amount of nourishment which is contained in one loaf of bread weighing 2½ pounds. So that if a man is in need of that amount of nourishment, and has pleuty of time to spare, he can, if he likes, take the heer. We prefer the *shortest* way.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, March 6, 1869.

City Stocks.

Since our last similar reference the transactions in city shares and bonds have been comparatively small, and mostly from private hands. In the Board sales of San Francisco Gas were effected at $77@78. The usual monthly dividends of our local institutions have been made as announced on the third page of this circular. The North Beach and Mission Railroad resumed the monthly disbursement of dividends the present month, the last one having been made in October, 1868. We also call attention to our corrected statement of assets of the various local insurance companies of this city, as rendered to the Insurance Commissioner at the close of 1868.

Mining Share Market.

The mining share market for the period under review has been characterized by the usual activity, and embraced a number of stocks that have been quiet for some time past. Some of the lately incorporated claims also made their appearance, selling to a considerable extent. At the close, the market is quite firm for several leading descriptions.

The amount of bullion shipped through Wells, Fargo & Co's Express from Gold Hill, Nevada, during the month of Febrnary, amounted to $229,251.

The following resolution concerning the placing of stocks on the regular list, came up on the 25th of February, in regular order, and, on motion, was amended and adopted, and reads as follows: That all applications to have stocks placed upon the regular list of this Board, shall first be referred to the proper committee, and if by such committee they shall be reported favorably upon, then, after paying into the treasury of this Board the sum of three hundred dollars, they may be placed on such list for the term of one year; and on the payment of one hundred dollars yearly thereafter, they shall be retained on said list.

We notice, according to the returns made by the Assessors of the State of Nevada, that the bullion yield for the entire State amounted to $16,172,500 during the year 1867, and $13,-317,000 for 1868, giving a yield of about $2,-500,000 over and above the product of the Comstock lode in 1867, and $4,800,000 in 1868.

The past condition of White Pine, Nevada, affords no possible criterion of its future. It has already achieved so great a celebrity as to have become an object of deepest interest in all portions of the Union, and the results obtained since the discovery of its rich lodes have been so wonderful as to cast all former precedents into the shade. Whether White Pine will prove to be as permanent as the Comstock Lode, is of course mere matter of conjecture at present, and each person will form some theory for himself. A large number of mining companies, representing over one hundred millions of dollars, have already been organized to work the mines of that region; but this fact does not seem to at all deter others from pursuing a like course, and the number increases with such rapidity as to defy exact mention. The bullion product of Lander county is given in the official biennial report of W. K. Parkinson, Controller of Nevada, as follows: In 1867, Lauder county yielded $1,357,816 in bullion, and in 1868, $2,463,980, showing an increased production of $1,106,164, due entirely to the recent discoveries at White Pine. The heavy disbursement of capital, and the thousands of miners who will be employed by it to vigorously unfold the mineral resources of that region, together with the astounding richness of its ores as developed so far, can scarcely fail to render White Pine a place of remarkable bullion production.

ALPHA—declined from $54 to $47 50, then sold at $50, and closed at $52. On the 3d inst. the northcast drift was reported to be getting into a fine white quartz, almost powdered, containing sulphurets. Will soon connect with Imperial ground, when better air will be obtained for the workmen....BELCHER ruled at $30@24, improved to $27 50, and closed at 27. This company has accumulated about 350 tons at the old dump, and 100 tons at Segregated Belcher dump. They are drifting south on 335 level in hopes of finding a new body....CHOLLAR-POTOSI sold at $166@176, aud closed at $173. For the week ending Feb. 26th, 700 tons of ore were extracted. Nothing of special interest concerning the mine....CONFIDENCE improved to $41, closing at $41.

CROWN POINT—has been more active than usual, improving from $73 75 to $80, and closing at $76. For February account, so far, $21,535 in bullion has been received. Most of the ore is taken from the 600 level. The east drift on 1100 level is in 108 feet, and the rock, although still quite hard, is said to be easier to work than heretofore. The northeast drift on 900 level is in east of east clay wall over 100 feet, the face being in granite.....GOLDEN CHARIOT (Idaho) advanced from $48 to $57, and at close $55 is bid. The receipts of bullion during the months of December and January amounted to $101,656 from 589 tons of ore. During the same time they disbursed $50,000 in dividends.

HALE & NORCROSS—gained great activity to ward the close of the week, advancing from $77 to $97, and closing at $95. A telegram states that the tunnel on the fifth level is in ten feet of ore, and the street report is that the ore is thirteen feet wide. Assays show it to be a good milling quality.

EMPIRE MILL—was in the market at $75@76. The bullion returns for the month of February foot up $15,736 84 against $13,655 in January. ....GOLD HILL QUARTZ sold at $50. For the month of February the bullion receipts aggregate $5,169....EUREKA (Cal.) shows a bullion yield of $53,000 during the month just closed.

KENTUCK—is in fair request, rising from $238 to $285, receding to $255, and closing at $263. The receipts on February account have been increased to $50,676....OPHIR declined from $41 to $37, and closed at $38. On the 3d inst. the lower drift had been carried a distance of 57 feet. No change in the rock.

IMPERIAL—sold within a range of $99@104, and closed at $109. During the month of February the bullion returns amounted to $38,070 against $46,728 in January, and $44,288 in December. It is believed that from 10,000 to 12,-000 tons of ore still remain in the Alta mine, which will mill from $12 to $14 per ton, the principal portion of which is found on the 230, 400 and 517 levels, the 90 and 150 levels being about exhausted. The mill can be kept running four months longer on ore from the Alta mine, during which time it is expected they will be able to thoroughly prospect the two levels now being opened from the Imperial-Empire shaft, and these localities do not show any favorable indications at present....SIERRA NEVADA sold during the week at $27 50@29. The bullion returns for February foot up $3,728. In January the bullion yield amounted to $9,998, and in December, $7,568. At present the mine exhibits an improved appearance, and the future prospects are apparently much brighter.

SAVAGE—did not sell to so large an extent as the previous week, commanding prices varying from $66 50 to $71 50, and at the close realizing $70....YELLOW JACKET declined from $75 to $70 75, and closed at $71....SILVER COBN (Idaho) sold to a large extent during the week, advancing from $10 50 to $19. The mine consists of 600 feet, divided into twenty shares to the foot. The office is located at 418 California street; W. J. Williams, Secretary....For AMANOR $295 is asked. The bullion yield for February will reach $64,000.

OCCIDENTAL—sold at $32@34 50, and closed at $35. The *Enterprise* of the 2d instant, says: Yesterday morning the lower tunnel of the Occidental tapped a vein of about fifteen inches of water. The tunnel is being run on the west side of the lead and the water comes in at the bottom and from the east side of the tunnel. The striking of the water is considered a very favorable indication. The water will be of great value to the company, as they intend building a large mill at the mouth of their tunnel. The water found comes up through the solid rock. It is well known that there is a large body of water east of the ledge which can be reached whenever it is needed, by running a drift through the east clay wall. The point where the present stream of water has been cut is about 850 feet from the mouth of the tunnel. This company will declare a dividend on Friday next of $2 per share. This is their first dividend, and although not large, is still very good when we consider the great amount of work which is being done for the development of the mine. They expect hereafter to declare a dividend regularly every month.

THE NEW "CITY GAS COMPANY," of which Hayward, Bell, Friedlander, Tevis, etc., are trustees, have purchased land on the Presidio, now occupied by North's shipyard, near the rolling mills. If they obtain a franchise from the Board of Supervisors they will immediately commence the construction of their works, intending to have them in full operation, with pipes laid, and all the necessary accessories, to supply the city with gas within from eighteen months to two years.

AN OLD PROSPECTOR.—Wm. Sublett, inventor of several improvements in paddle wheels and steel saws, recently left this city to pitch his tent in White Pine.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Amador Co., dividend, $6 per share	Payable Feb 10, 1868	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Cal. Borax Co.	Annual Meeting March 10	
Chalk Mountain, Nevada co., Jan. 13, $2	Feb. 15	March 8
Chollar-Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7 50	Payable Sept. 12 1868	
City R. R., San Francisco, Jan. 6, $5	Feb. 1	March 6
Coney, preferred Stock, div. 2½ per cent.	Feb. 10, 1869	
Chloride Mt. Tun., White Pine, Feb. 2, 50c	Mar 13	Ap. 10
Cordillera, Mex.	Annual Meeting March 15	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka div. $5	Payable Jan. 20, 1869	
Folsom St. & Fl. Pt. R. R. Jan. 30, $5	March 3	March 20
Gould & Curry, div., $7.50	Payable May 15, 1867	
Golden Chariot, Idaho	Annual Meeting March 1	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, div. 50c per sh	Pay. Feb. 26. 18 9	
Glenwood, El Dorado co, Feb 19, $25	April 2	April 2
Hale & Norcross, div. $125	Sept. 16, 1867	
Hale & Norcross, Storey co., Feb. 12, $5	March 20	April 8
Hale & Norcross, Storey co	Annual Meeting March 10	
Hope Gravel, Nevada co, Feb. 24, $1	March 29	April 19
I X L, Alpine co., Jan. 19, $1 50	Feb. 27	March 17
Imperial, Storey co., Nev., div.	Payable June 20, 1868	
Juan Bautista, Santa Clara co., Nov. 27	Sale Jan. 30	
Julia, Storey co, Nev., $2.50	Feb. 10	Feb 27
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Keystone	Meeting April 2	
Mt. Tenabo, Lander co, Jan. 23, 75c	March 5	March 30
Mohawk & Montreal, Nev. co., Feb. 10, $3	Mar. 15	Mar. 31
Mohawk & Montreal, Nevada co.	Meeting March 15	
Maxwelt, Amador co., Feb. 9, $1	March 13	April 1
Morning Star, Alpine co, March 3, $2	April 5	April 28
North Amer. Wood P. Co., Jan. 15, $1	Feb 18	March 8
North Star, dividend, $5	Payable Aug. 15, 1868	
Oriental, Sierra co., Jan. 4, $2.50	Feb. 5	Feb. 20
Peninsula, Storey co., Dec. 15, $10	Feb. 11	March 6
Pacific Unassessable, div.	Payable June 18, 1868	
Pocotillo	Annual Meeting March 2	
Rattlesnake, Yuba co, Dec. 19, $7.50	Jan. 21	Feb. 18
Rising Star, Idaho, Feb. 8, $6	March 31	April 3
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1	Payable Jan 5, 1869	
Savage, Virginia, Nev, dividend, $2 50	Payable Feb. 11, 1869	
Siskiyou	Annual Meeting March 8	
Star Creek, Nev., Feb. 26, $1 50	March 29	April 19
Tallulah, Humboldt co., Dec. 14, $17.50	Jan. 29	Feb. 27
Treasure Trove, Lander co., Feb. 15, 20c	March 21	April 12
Virginia & G. H. Water Co.	Dividend, payable Nov. 20, 1868	
Virginia, White Pine, Nev.	Annual Meeting Feb. 27	
Yellow Jacket, div., $5	Payable Feb 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, March 6, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 84	85
United States Bonds, 5 20s, 1864	84	85
United States Bonds, 5 20s, 1862	84	85
Legal Tender Notes	77	77½
California State Bonds, 7s, 1857	97¼	—
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int	
San Francisco City and Co. Bonds, 7s, 1855	91	—
San Francisco City and Co. Bonds, 7s, 1862	85	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co. Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	30	31
Sacramento County Bonds, 6s	65	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	76	77
Sutter County Bonds, 10s, 1860	65	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co.	67	70
Spring Valley Water Co.	68	70
State Telegraph Co.	26	—
GAS COMPANIES.		
San Francisco Gas Co.	78	86
Sacramento Gas Co.	85	—
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	72	—
Central Railroad	10	—
North Beach and Mission Railroad	70	—
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	158
People's Insurance Company	—	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co.	92½	94
Pacific Insurance Co.	126	127
Merchants' Mutual Marine Insurance Co.	500	520
California Insurance Co.	1300	1400
Union Insurance Co.	92	93
Home Mutual Insurance Co.	19½	20
Occidental Insurance Co.	84	87
MINING STOCKS—WASHOE DISTRICT.		
Alpha	52	53
Baltimore American	—	—
Belcher	26	27
Bullion, G. H.	20	21
Crown Point	76	76¾
Gale (Va.)	10	—
Confidence	40	41
Consolidated Virginia	4	—
Chollar-Potosi	175	—
Daney	43	43½
Exchequer	19	20
Empire Mill and Mining Co.	77	80
Gould & Curry	114	115
Gold Hill Quartz	45	48
Hale & Norcross	95	95
Imperial	109	110
Julia	—	—
Justice and Independent	13	—
Kentuck	263	264
Lady Bryan	18	19
North American	14	15
Ophir	38	38
Overman	71	72
Segregated Belcher	103½	103½
Savage	70	70½
Sierra Nevada	29	30
Yellow Jacket	70	71
Union	—	—
United States	—	—
MISCELLANEOUS MINING STOCKS.		
Amador (California)	290	295
North Star (California)	—	—
Eureka (California)	230	240
Golden Rule, California	10	12

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, March 5, 1869.

Flour, Extra, ₰ bbl	$5 25	@$5 50
Do. Superfine	4 50	@ 4 75
Corn Meal, ₰ 100 lbs	3 25	@ 3 50
Wheat, ₰ 100 lbs	1 50	@ 1 70
Oats, ₰ 100 lbs	1 85	@ 2 25
Barley, ₰ 100 lbs	1 75	@ 2 25
Beans, ₰ 100 lbs	6 00	@ 7 00
Potatoes, ₰ 100 lbs	75	@ 90
Hay, ₰ ton	12 00	@20 00
Live Oak Wood, ₰ cord	9 00	@10 00
Beef, extra, dressed, ₰ lb	11	@ 12
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₰ lb	5	@ 7
Hogs, dressed, ₰ lb	9	@ 10
GROCERIES, ETC.		
Sugar, crushed, ₰ lb	—	@ 17¾
Do. China	10	@ 12
Coffee, Costa Rica, ₰ lb	—	@ 18
Do. Rio	16¾	@ 17
Tea, Japan, ₰ lb	75	@ 90
Do. Green	60	@ 1 25
Hawaiian Rice, ₰ lb	—	@ 10
China Rice, ₰ lb	6	@ 7
Coal Oil, ₰ gallon	45	@ 48
Candles, ₰ lb	16	@ 18
Ranch Butter, ₰ lb	35	@ 45
Isthmus Butter, ₰ lb	42¾	@ 45
Cheese, California, ₰ lb	15	@ 20
Eggs, ₰ dozen	40	@ 45
Lard, ₰ lb	12	@ 13
Ham and Bacon, ₰ lb	14	@ 15
Shoulders, ₰ lb	7	@ 8
Retail Prices.		
Butter, California, fresh, ₰ lb	60	@ —
do. pickled, ₰ lb	50	@ —
do. Oregon, ₰ lb	20	@ 28
do. New York, ₰ lb	35	@ 40
Cheese, ₰ lb	20	@ 25
Honey, ₰ lb	25	@ 30
Eggs, ₰ dozen	50	@ 60
Lard, ₰ lb	15	@ 16
Hams and Bacon, ₰ lb	23	@ 25
Cranberries, ₰ gallon	1 25	@ 1 50
Potatoes, ₰ lb	1½	@ 2
Potatoes, Sweet, ₰ lb	3	@ 5
Tomatoes, ₰ lb	3	@ —
Onions, ₰ lb	3	@ —
Apples, No. 1, ₰ lb	4	@ 5
Pears, Table, ₰ lb	5	@ 7
Plums, dried, ₰ lb	10	@ 12
Peaches, dried, ₰ lb	10	@ 12
Oranges, ₰ dozen	75	@ —
Lemons, ₰ dozen	75	@ —
Chickens, apiece	—	@ 75
Turkeys, ₰ lb	23	@ 25
Soap, Pale and C. O.	7	@ 12
Soap, Castile, ₰ lb	20	@ —

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, March 5, 1869.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₰ 100 lbs; Bar 1@1½c ₰ lb; Sheet, polished, 3c ₰ lb; common, 1¾@1¾c ₰ lb; Plate, 1½c ₰ lb; Pipe, 1¾c ₰ lb; Galvanized, 2½c ₰ lb.

Scotch and English Pig Iron ₰ ton	$40 00	@$41 00
White Pig ₰ ton	36 00	@ 37 00
Refined Bar, bad assortment ₰ lb	— 03	@ — —
Refined Bar, good assortment, ₰ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04½	@ — —
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¼
Sheet, No. 24 to 27	— 05	@ — 6½
COPPER.—Duty: Sheathing, 3½c ₰ lb; Pig and Bar, 2½c ₰ lb		
Sheathing, ₰ lb	— —	@ — 26
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
TIN PLATES.—Duty: 25 ₰ cent. ad valorem.		
Plates, Charcoal, IX, ₰ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Sanca Tin Slabs, ₰ lb	— —	@ — 35
STEEL.—English Cast Steel, ₰ lb	— —	@ — 15
QUICKSILVER.—₰ lb	— 55	@ — 60
LEAD.—Pig, ₰ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9¼
ZINC.—Sheets, ₰ lb	— 10¾	@ — 11
BORAX.—California, ₰ lb	— 35	@ — 38

THE ELKO BITUMINOUS SHALE is found two miles from the railroad in a stratum eight feet thick, and has been located over six square miles. The Virginia *Enterprise* says: "Scientific men who have examined the deposit pronounce it bitnminons shale, covering cannel coal, but say that it is superior in every respect to anything of the kind ever found in America. From tests made it is said to have shown 42¼ per cent. coal oil, and it is said that one ton of the shale will make 800 feet of gas, of a superior quality." The authority is no doubt good, but we would like to see some of this cannel coal; and it strikes us as possible that an error of thirty or forty per cent. may have been made in determining the coal oil.

PHYSICAL LAW AND POSTAGE STAMPS.—Postage stamps that are wet on *both* sides are not liable to peel off. If wet only on one side, the expansion is uneven, and the adhesion must be very perfect to prevent peeling.

THE GREAT MODERN SPECIFIC.—"Nothing new under the sun," said Solomon: "History repeats itself," says a modern essayist. Every day some sententions fellow or another insists that the Present is indebted for every so-called "new idea" to the Past. Some folks go so far as to believe that there is an allusion to the iron horse of the railroad in the old testament. But where among the mists of antiquity is the prototype of the PLANTATION BITTERS to be discovered, that stimulant without a sting, that tonic without one injurious or even questionable element to interfere with its perfect work of physical regeneration? In a general way the sages of long ago recommended vegetable remedies for the "healing of the nations," but it was not until this incomparable Vegetable Elixir was introduced, that the desired object was attained. It is the best combination of tonic and alterative botanic materials that the world has ever seen.

* * *

IT may be singular, perhaps not, that no one purchasing spectacles of C. Muller, 205 Montgomery street, is ever dissatisfied with his bargain.

* * *

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books. *Nevada Gazette.*

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Chronicle, Feb. 20th: The Pennsylvania Co. is making gratifying progress toward the ledge. The tunnel is now in about 905 feet. The rock is seamy, and it is evident that the ledge is not far off.

In sinking the Morning Star shaft Superintendent Gamble has struck a body of the rich black ore which has made this claim so valuable. The shaft having been completed, Mr. Gamble, by running a short drift, will soon strike the heavy body of ore in the lower level. The experimental working of the ore by the chlorination process at the Markleeville Mill has proved a perfect success in every way, and the ore can now be worked without the use of salt, which will be a saving of $10 on every ton of rock worked. The Co. will soon commence the erection of new furnaces at Markleeville, and expect to have the mill running again as a permanent institution in about six weeks.

The *Herald*, of this city, says: From private correspondence we learn that splendid headway is being made in the Imperial mine, and the prospects are fair to cut the Triumph ledge by the 1st of May. They made 14 feet last week with but two shifts of men. The Mount Bullion, on the opposite side of the river and a little lower down than the Imperial, is also making better headway than for a long time, having made 16 feet in the last week. This Co. will soon cut their finest ledge, which gives good promise of yielding rich ore in abundance. The Morning Star, in Mogul, have got their main shaft down to a point even with the lower level, and are now running a tunnel to intersect the drift from the incline. They have cut several small bodies of good ore in sinking the main shaft, and as soon as the connections are made between the new and old works, they will commence taking out ore. The Township mine is soon expected to start up, when, with good management, the mine can be made a paying institution. There are several other mines steadily at work, but with what success we are unadvised.

AMADOR COUNTY.

Jackson *Ledger*, Feb. 27th: The mill of the Coney & Bigelow mining Co. has been shut down for the purpose of making some needed repairs.

The Alturas mine, four miles above Volcano, is proving to be very rich. They have just finished crushing a run of 60 tons that yielded a little over $35 per ton.

The S. F. *Herald*, March 2d, says: A letter from the Amador Mine, dated the 26th, says the north shaft continues to improve as sinking goes on. From the mine there is but one uninterrupted succession of good news.

EL DORADO COUNTY.

The *Herald* of this city, of March 2d, has the following: The Pacific Co. have shut down their mill to add another battery. The mine is looking well and showing good signs of improvement as the work progresses, as to warrant this addition to their mill. The ore is said to pay handsomely, which is encouraging to the quartz interests of El Dorado, which for a long time have been in a languishing condition.

INYO COUNTY.

San Diego *Union*; Feb. 13th: Fourteen thousand pounds of bullion arrived in this city yesterday in charge of Gray, Bro. & Arcado, from the Cerro Gordo mine.

MARIPOSA COUNTY.

Gazette, Feb. 26th: During the past week a large boiler, smoke stack and other portions of machinery, have been brought into Mariposa by the Company, and will immediately be placed in working order for the purpose of pumping the water out of the mine. Quite a number of hands will soon be at work on the mill below town, and it is to be repaired as speedily as possible.

The Washington mill and mine is situated about one eighth of a mile West of Quartzburg, and is owned by Page & Co., of San Francisco. At present the mine is worked from a shaft 265 feet in depth, the vein averaging from seven to ten feet in width, and the ore yields from $20 to $30 per ton. Three miners and three strikers are sufficient to furnish an abundant supply of rock to keep the mill constantly running. It is a ten-stamp mill and crushes over ten tons of rock every 24 hours. The ore is raised to the surface directly in front of the batteries, where the spalling process is performed by two Celestials. The water to supply the batteries and the boiler is raised by a pump of five feet stroke and eight inch bore, and the hoisting works, pump and mill are all driven by an engine of two feet stroke and nine inch bore. This engine was obtained at the Miner's Foundry, San Francisco. After a run of two weeks the mill was cleaned to-day, and 160 ounces of amalgam obtained, which will return about $12,400 in coin.

NEVADA COUNTY.

Transcript, Feb. 23d: The weather has been exceedingly cold for the past few days, freezing up the ditches and putting a quietus on the operations of miners. A valuable tail sluice, in Sweetland creek, was recently sold by Stephen Spencer & Co. to Evans, Stidger & Co. for $20,000. This property is located below the claims of Evans & Co. and is the outlet for some of the most valuable claims in Bridgeport township, situated along the gravel range from Buckeye Hill to Birchville.

Feb. 25th: The repairs on the Blue Tent reservoir, which was broken during the late storm, were completed yesterday. The break was caused by a gopher.

We understand that satisfactory arrangements have been made between the mining companies that have an outlet through the flume running through the city, and the property holders, and that the flume is to be built by the companies from the Masonic building to Deer creek.

Feb. 26th: The prospect for a prosperous Spring among miners in this county is exceedingly excellent. The snow in the mountains will furnish abundance of water for many months, and our miners are generally satisfied that it is foolish to leave Nevada county, where the value of the mines is fully demonstrated, for any place of uncertain resources. The weather is now excellent, and if there is no more severe weather miners will be in the hight of prosperity in a short time.

Leavitt & Co. yesterday commenced work on the flume which is to be the outlet for their mining claims from the Masonic building, under the houses on Commercial street, to Deer Creek. It will be completed and the miners will resume operations in a short time.

Gazette, Feb. 24th: Robert Irving, J. C. Duel and others have located 2,500 feet on a quartz ledge situated on Worthington's ranch, Grass Valley township. William Dawes and others, under the name of the Imperial Quartz Mining Co., have located 2,000 feet on a quartz ledge on the south side of the Nevada and Grass Valley Turnpike.

Feb. 25th: The Eureka Mining Co. shipped on Tuesday $33,000 from Grass Valley. Of this sum, $24,000 was the yield of two weeks' run of the mill, and $9,000 was from the yield of sulphurets from the mine.

We understand from a gentleman over from Birchville that the Keunebec Co. at that place have recently cleaned up, after five days' run, $8,000.

Feb. 26th: We saw yesterday, at the Sneath & Clay mine, a considerable quantity of good rock which has recently been taken from the lower north level.

Grass Valley *National*, Feb. 23d: A contract has been let for sinking 100 feet on the Crescent Ledge, Kate Hayes' Hill.

Everything at the Sebastopol Mill is moving along smoothly, with immense piles of rock in waiting to be reduced to a gold basis. Eighty loads from the Ben Franklin, near the Ione ledge, are now being put through. The last crushing paid as high as $40 per load. The company are down on their ledge 100 feet and the rock is looking better than ever before with the ledge ranging in thickness from 14 to 18 inches. From the Lamarque ledge, located on New York Hill, 120 loads of rock will also be crushed. The last crushing paid over $40 per load, and it is thought this ore will average $50 per load. We also saw an immense pile of rock from Gregory & Mausau's ledge, on Osborne Hill, to be put through the batteries. Some lively betting is going on as to how much it will pay per ton, but it is generally conceded that it will be in the vicinity of $100. Things certainly look very encouraging for a lively and prosperous mining season in Grass Valley, so much so, that many who had the White Pine fever are wisely concluding to stay at home and invest their coin where there is a chance of having a return for it.

Mr. Nash, just arrived from Eureka South, says: At Moore's he found the snow four feet deep, but melting very fast. Several of the mills at Eureka are busy at work, among the number the Birchville, New Era, Young & Stacy's, Mutual, etc. The rock from several of the ledges is looking well and paying as well as any in the county, considering the depth the companies have prospected.

Feb. 22d: The Hope Gravel Co., on Alta Hill, are still hard at work developing their mine. Recently a contract was let for sinking a shaft 230 feet at a point 1,000 feet west of old works, where the company have been operating for three years past. Wm. Paul & Co. took the contract for $9 per foot. The size of the shaft is 12x14 feet—divided into three compartments, two "hoist-ways" and a pump-shaft. The shaft has been sunk about 50 feet so far, and the work is being prosecuted with considerable energy. From the old shaft, 4,000 feet east of the new one, the company have drifted to a point near the new shaft which is being sunk to facilitate the development of the mine. The gravel bed is about 200 feet wide, running east and west, and the new shaft, when completed, will open up enough ground for at least two years' work.

Feb. 24th: The Brown Brothers have suspended operations, at their mill, on Wilcox Ravine, near You Bet, in order to overhaul their machinery and make repairs.

Grass Valley *Union*, Feb. 25th: During the late heavy snow storm at Graniteville the following quartz mills kept continuously at work: The Mutual, Birchville, Norfolk, Jimcrack, and Black and Young's. The Black and Young mill is running on rock from the Banberry ledge, and the clean-ups prove very rich. An active and prosperous season in quartz mining is anticipated at Graniteville the coming summer.

EXCELSIOR.—The Gold Hill *News* has the following from the Excelsior mines: Joe Ravelle, recently returned from Meadow Lake, gives us the following items relative to Excelsior District: The Mohawk and Montreal mine is steadily being worked. The tunnel from the level of the mill of the company is steadily progressing toward the ledge, which it will intersect at a depth of 400 feet beneath the croppings, thus affording a grand chance to extract ore to the greatest advantage at all seasons of the year. The Pacific Co. also propose commencing work soon; also the Independent. The Enterprise mine and mill are still idle, with a man there in charge of the property. The company will probably commence operations again when the snow goes off. The Lake Co., about a mile southeast of the town of Meadow Lake, has developed a valuable ledge of rich gold-bearing rock, three feet in width, and has let a contract to sink a working shaft on the same—the contractors to take the rock extracted during five months in sinking said shaft for their pay. The shaft is already 35 feet in depth, with a good house erected over it.

PLUMAS COUNTY.

Quincy *National*, Feb. 13th: A correspondent at Snake Lake writes: Lile Jacks (Smith & Co.,) has again brought water on the old Badger Hills claims, after building a large reservoir up Hill's ravine, and cutting and digging a new ditch, over a mile long, and a large portion of it in hed rock. It will carry 600 to 700 inches of water. Squire Jacks is also waiting the tapping of the clouds by a warm rain current. John O'Brien and McDougal, at New Boston, are pitching into Goodwin Point, with a prospect of better diggings as soon as they can get to the bottom of the channel. From present indications it will pitch below the present running creek. They have flattering prospects. Metcalf and Haycock have not yet got a good head of water, but are ready when it arrives. Jenkins, Richards & Co., on the Wah-pon-see Hill, and Colman on Pine Leaf, are doing a good business, considering the lack of water. Maxwell & Copeland, in the bed of Wah-pon-see creek, are beginning to make things look in "ship shape" order for a lasting claim. Their propects are good. John Ball, at Logansport, will make the thing shell out this summer, judging from the prospects. Tommy Taylor, on Wet Hill, and Trimble, on Gambler's Ravine, are still following good prospects, drifting, and waiting for water to do something better. Riddle, of Soda Bar, is making things look lively around his camp. Bob Holmes and Hugh McLawland, at Dutch Bar, have diggings, and lasting ones.

The Caledonia Co., at Cherokee, has struck extra good pay rock, has put on several work hands, and is doing very well. Judkins & Kellogg's mine is looking better than it has for a long time. In J. Blood's Indian Valley mine, they have struck extra good rock in one of the several gold bearing chimneys. The mines are, on the whole, looking up. Bidwell is putting the Waterworth mill in running order again. The Crescent is a *quien sabe* case. Shorkly and Cook have sold their interest in one of the Cherokee quartz ledges, for $2,100, to Bidwell, and an interest in another lode for a big sum, figures not known. The Cherokee mining district is one of the best in Plumas county, when it gets to be thoroughly opened and worked in a scientific manner.

SISKIYOU COUNTY.

Yreka *Union*, Feb. 20th: The Oak Grove Co. are doing well in their claim on McAdams Creek. Carroll & Co have suspended operations for a few days, but will soon be at work again.

TRINITY COUNTY.

Weaverville *Journal*, Feb. 27th: We understand the flume across Brown's creek, near Davidson's mill, will be completed and conveying water to Douglas City by the first of next week.

A miner, whose name we have been unable to learn, found a piece of gold weighing three pounds, last week, near Trinity Center.

Paulsen & Co. have a ditch full of water and are briskly at work in their claim at Smith's flat.

YUBA COUNTY.

Marysville *Appeal*, Feb. 28th: We learn that the Jefferson mine, at Brown's Valley, has been working old ground for some months past, and doing very well. At the same time the Superintendent has kept up prospecting. One drift has been run westwardly into the hill.

ARIZONA.

Prescott *Miner*, Feb. 13th: A piece of gold weighing $26 was found at the Placeritas, near Walnut Grove, in this county, a short time ago.

BRITISH COLUMBIA.

A despatch from Victoria, dated Feb. 15th, says: Late mining news from Carriboo is very favorable. The weather continued mild and all the principal mines were paying well. A movement was on foot to organize a company to prospect the meadows on Williams Creek.

The steamer *Sir James Douglass* arrived at Victoria, March 1st., from Nanaimo. She reports that there are 10,000 tons of coal ready for shipment at that port.

The Vancouver *Register* says: M. Eaton, on Lewis River, has discovered a number of lumps of gold, recently, varying in value from twenty-five cents to a dollar and a half. He declines revealing the place of their discovery till he makes some further explorations.

COLORADO.

Georgetown *Miner*, Feb. 4th: At the Brown mine, which we visited a day or two since, we found work progressing favorably in the adit, which is now 200 feet in length, the vein carrying from 8 to 14 inches of mineral; in one place, where we measured this vein, it was full 18 inches in width. The mineral has been improving for the last 20 feet, carrying more galena and less blende.

At the Coin lode we also found an adit in progress, which is now 65 feet in length. The pay vein averages 14 inches in width, four inches of it being solid mineral, and the balance a rich gangue, carrying native silver in abundance. On Sunday last they took off, at the works, 4,356 ounces of silver bullion, coin value $5,662. The run was from 20 tons of Brown ore, and gave an average yield of $283.10 coin value, per ton. The cost of reduction was $10 per ton, and 94 per cent of the fire assay was saved.

IDAHO.

Owyhee *Avalanche*, Feb. 20th: The Ida Elmore is being rapidly put in order. The Golden Chariot is yielding large quantities of ore at this time, which has diminished none in the richness of quality.

The Poorman looks more permanent, and is in better working trim now than at any time since its discovery. The ledge ranges from 1½ to 3½ feet in width, and is producing an excellent quality of ore. The new hoisting machinery works well. There is quite a pile of ore in the dump.

The Peck & Porter mine is developing well, the ore resembles that of the Ida Elmore and Golden Chariot. We were shown by Mr. Peck a large specimen extracted from the mine, literally speckled with gold.

The Baxter mine is turning out well.

Silver City *Tidal Wave*, Feb. 19th: Hiram Gove and John Hildreth, have left with us some excellent specimens of South Mountain ore. One piece from the "Original," shows almost every metal known to this region, but is especially rich in silver, lead and iron, the other is from the Galena ledge, and abounds in silver and lead. Many assays have been made of these South Mountain ores, all of which have proven very satisfactory. Certainly the specimens in our possession present an appearance of richness quite equal to those shown us from White Pine, or elsewhere.

The Boise *Statesman* says: A friend lately from Lewiston informs us that considerable interest is taken in a new discovery of rich placer mines in a branch to the Bitter Root Range, and that a number of the citizens of that neighborhood are preparing to

visit that country at an early date. There is a very extensive country through North Idaho, which has never been much prospected, which will some day be opened up to a large mining population.

NEVADA.

REESE RIVER.

Austin *Reveille*, Feb. 25th: Yesterday the First National Bank of this city shipped overland to New York city five bars of bullion, the product of the Belmont mill. The bullion was the product of ores obtained from the mines of Col. Buel in the district of Silver Bend.

WHITE PINE.

The country papers are filled with letters from parties now at White Pine, all bearing the same tenor. The snow covers the entire country, so that prospecting to any great extent is out of the question. All look for lively times in the spring. The country is filled with persons ready to start out on the first symptoms of spring, to more thoroughly prospect the adjoining country, and many are still arriving. We give below the latest from this section.

Treasure City *News*, Feb. 20th: Considerable activity has been manifested in mining matters during the past week, and several important transactions have taken place. The Seymour and adjacent mines, situated under Pogonip Flat, were sold to Mr. George Hearst, an old pioneer silver miner, for the sum of $95,000, which sum is believed to be not one-tenth of its real value. Unlike most of the mines here, the Seymour, (or rather the Silver Treasure, as it is to be called hereafter,) shows a true and distinct fissure vein, with both hanging and foot walls. It is about twenty feet in width, and shows as uniform a record of assays, and averages as high, as any mine in the country.

A very rich chamber of ore has been struck in the Progress mine, on Chloride Flat, which bids fair to be both rich and extensive.

The Illinois Co. have commenced work again in good shape. They have workmen engaged sinking a shaft on the vein, and purpose sinking until they get as good ore as that of the Eberhardt, and from present indications there is not the least doubt but what they will. This claim is situated on Silver Glance Hill, about 2,000 feet directly east of the Eberhardt mine, and 200 feet east of the Silver Glance. The location is excellent, and in a very short time it will be one of the prominent mines of this District.

According to the Austin *Reveille*, 613 pounds of bullion arrived from Hamilton on Feb. 22d, 209 on the 23d, and 202 on the 25th.

The Virginia *Enterprise* says: We conversed with a person yesterday who saw at White Pine several of the men of a party which had returned from a prospecting trip to the eastward, bringing specimens of silver ore and a very meagre description of the country. Our informant stated that the ore is chloride of a superior quality, and the prospectors said that it occurred in great quantity. Their explorations were cut short by a severe snow storm, and they were compelled to abandon the place in haste, but they intend to return with the first approach of summer. Of course the prospectors did not give an accurate account of the locality where they made the discoveries, and only stated generally that it was near Egan Cañon, or about 65 miles east of Hamilton, White Pine. There are several organized districts in that direction which were discovered years ago. The Hercules district is situated in the Egan range of mountains, about 160 miles nearly east from Austin, and bordering on the fine and extensive Steptoe valley. Many veins or deposits of silver ore were reported to exist in the district, and were located by the discoverers. It was also said that copper ore occurred in limestone in some parts of the district. All the prospectors that visited this section united in saying that Steptoe valley, with its numerous streams of water and lush meadow land, is the garden spot of Nevada. Further southward, and lying directly on the route from Pahranagat to White Pine, is the Robinson district, which is said to exhibit extraordinary peculiarities in its mineral occurrences. Copper, silver, lead, and gold ores, were reported as abundant. There are entire hills apparently of copper ore, and there are distinct veins of fluor spar in which occur cubes of galena. We have seen specimens of the silver-bearing ore reported to be from the Robinson district, which were of excellent quality. About 170 miles east from Austin lies the district of Egan, or Gold cañon, as it is sometimes called from the occurrence of gold in the quartz. It was discovered in 1863, is very accessible, and is well supplied with water; but outside the property of the Social and Steptoe Co., there is very little development in the district. The Kinsley district is situated in the Antelope range of mountains 40 miles northeast of Egan canon, and 200 miles from Austin, on the eastern border of the State. The peculiarity of this district is the many massive veins of copper-bearing ore. Samples of this ore taken from the surface is represented to have yielded by assay from $60 to $100 per ton in silver. We believe the Central Pacific Railroad will pass through the Kinsley district. Directly south of White Pine and in the same range of mountains are the lately discovered districts of Grant and Troy, in both of which fine silver ore has been discovered. In this vicinity, in a radius of perhaps 60 miles, there is a plexus of veins and deposits of silver ore of immense value, which will reward the labors of the prospector, who may fail to secure anything in overcrowded White Pine. Possibly the reported new discoveries may be in some of the districts we have mentioned; or they may be original and in the same direction.

A correspondent writes: There is no doubt but that the mines here are very rich, as far as they have been developed, but as yet none have been sunk upon to any great depth. The ore is found almost everywhere by sinking a few feet in the limestone, but the whole country around has been located, and wherever chloride has been found the holes are so thick that the rock can hardly be thrown from one hole or shaft without falling into another. Everybody here is on the sell. If a prospector goes out and strikes "chloride," as they say, he is at once worth in his own estimation from $10,000 to $500,000, even though he has not a dollar with which to buy a square meal.

A correspondence published in the Havilah *Courier*, dated Silver Springs, Feb. 1st, says: Medherry is doing well, and is greatly encouraged. He was working a claim in company with Ed. Emory. He found pure silver on the top of the ground, and it raised a great excitement. He pays $5 a day for hands. The day before he wrote he had two tons of rock carried six miles to a mill—the transportation costing $40; he thinks the rock will pay $3,000 a ton. A great influx of population is expected at White Pine from all parts of the United States. The mines are not held at so high a figure as formerly. There are a good many rich mines there, but not enough to give the population a foot each. There are only 25 stamps there, and those not working, but if all mills spoken of are put up there will be at least 30 in the spring. So far, with one exception, the mines that have been sunk on have turned out poorly below 40 feet.

In regard to mining developments, says the *Bulletin* correspondent, it may be stated that while the older claims, such as the Eberhardt, Hidden Treasure, Stanford, Aurora, Pocotillo, Virginia, and the leading claims on Chloride Flat, are exhibiting increased signs of wealth to the extent of further exploration, a great number of mines ranking here in the third and fourth classes are affording the utmost satisfaction upon being opened. In this category we have now coming into prominence the Mazeppa, the Copper Glance, the Pennsylvania and the Featherstone, all of established value, while the Hornet, California, Emersly, Charter Oak, Poorman, Illinois and the Independent, with some new strikes about Pogonip and Bromide Flats, fall into a class but one grade lower; two or three of them being by some esteemed equal to either of the three first mentioned. From all these claims, ores—and in considerable quantities—are now being taken. From the Belle Chloride, Plata Pura, Argyle, Umatilla, Coulson, Neptune, and perhaps a hundred other lodes, the names of which do not occur to me, fair milling ore is being raised in moderate quantities, while the multitude of shafts sunk on Chloride Flat continue to yield their usual complement of rich ores. Among the rising claims of the district, the Hornet seems just now to be most conspicuous. The lode is large, very regular and highly metalliferous, though the assays do not run extremely high. Some rich developments recently made on the California lode is causing it to be the theme of much conversation in mining circles here. This mine is situated a short distance southwest of the Eberhardt, and, at a depth of less than 20 feet, is yielding ores that assay equal to the Eberhardt, and have milled nearly $400 per ton. Thus one mine after another becomes conspicuous, and, passing upon the list of properties of recognized value, is afterwards not much more heard of. A rich strike in the Hidden Treasure mine, whereby a body of ore milling $400 per ton has been laid open at a depth of 80 feet, is also reported. This, if true, will prove a significant fact, as establishing the continuance of the rich ore channels at this considerable depth.

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

Virginia *Enterprise*, February 24th.] The Twin mine, Silver City, is yielding a very considerable amount of pay ore, but it is all being extracted at present from above the water level, as the pump in the lower part of the mine has been removed to give place to one of greater capacity, which will soon arrive. The best ore is below the water level.

The Bacon will start up on ore from the Hale & Norcross mine in a few days.

The mill of the Gold Hill Mill and Mining Company started up day before yesterday on ore from their tunnel, dumped by means of the new car track directly into the mill.

The Ophir Co. are again at work at their new shaft. They are running a drift to the westward from the bottom of the shaft.

Feb. 25th: The work of retimbering the paved portion of the Gould & Curry shaft will be finished about the middle of next month.

The Cole Co. is still hard at work, and have out a large lot of rock which will be hauled away for crushing as soon as the snow leaves the side of the mountain.

Work on the Julia mine is being vigorously prosecuted. The shaft is now 350 feet in depth, and from this level two drifts are being run, one east and the other west, to tap two ledges which the company claim to own. They suppose they have from 50 to 60 feet to run, before striking their east lead, and 40 to 50 to carry them to their west vein. In the west vein some fine "stringers" of quartz have been cut, from which assays running from $10 to $12.72 have been obtained.

Feb. 26th: The Yellow Jacket mine is at present looking better than before in its history. There is plenty of good ore in sight almost everywhere from top to bottom.

Feb. 29th: In drifting upon the west view on the two hundred-feet level of the Justice and Independence mine, it has been found to widen out, till it is now some ten feet across, and several assays, averaging about $100, have been obtained from it. There was considerable excitement in regard to this strike yesterday.

MONTANA.

Helena *Post*, Feb. 5th: A party of Germans, last week, discovered a small and very rich gulch one mile west of Blackfoot City, which prospected from 25 cents to $1 to the pan. From a pit eight feet square $400 was taken out with a rocker. The new discovery has been staked and is being actively worked.

The miners on Ophir Bar have been working their claims all winter, and have a promise of good times in the spring, as there is more snow in the mountains at the head of the streams than at any time last winter.

A lump of retort weighing 14 ounces, the result of four days' run in an arastra from 250 pounds of rock from the Johnson & Stanton lode, Brown's Gulch, has been brought to Virginia City. This lode is four feet wide and has a shaft 30 feet deep upon it.

We saw yesterday at the assay office of S. F. Molitor a gold bar worth $4,097.07, the result of a clean up in the Diamond City 10-stamp mill, on Saturday last, from 160 tons of unselected ore, product of the Whitlatch Union mines. This rock was taken from the bottom of an incline 175 feet in depth, at which point the ledge presents a face of splendid quartz five feet in thickness. The workmen have now been engaged in this rich deposit some two weeks, and it retains all the characteristics of permanency and value which have pertained to it from the first. Numerous specimens of free gold bearing rock have been procured from it which compare favorably with any that have ever been found on the Whitlatch Union lead.

The Bannack correspondent writes: Men are doing well rocking along the old bars these warm days. Quite a number are working in the bed of the creek, and are bringing to light many tubfulls of good pay dirt. Other ditch companies are making preparations for mining in the spring. Of the various discoveries that have been made the past fall we will speak of only one. That is a lead in the Blue Wing District, about three miles from Bannack, named the Brick Pomeroy. It was discovered by Bassett & Ney. It is amalgamating silver-bearing rock, and rich. The lead at the point where they are sinking is 15 feet wide. There is now enough quartz in sight to keep a twenty-stamp mill at work till it wears out.

Same, Feb. 12th: The Diamond City mill, situated in Grizzly Gulch, is now engaged in a run upon rock from the Wisconsin lode, and we learn that the amalgamating plates give evidence of a greater yield than from any like run ever before made in the Territory.

The Boulder diggings—the first discovered in the Territory, and the center every year since, of a new excitement—again loom into importance. The prospects are brighter now, we think, than ever before. The bars originally discovered have been constantly mined, yielding from $8 to $10 a day to the hand; and good prospects have been obtained on the opposite side of the creek. Then five or six miles lower down are several small gulches prospecting well for hydraulic diggings, besides the bars on Burkius' place, which are to be developed the coming spring.

From A. J. Smith, lately arrived from Bannack, we learn that every one in Bannack is employed in some manner. Some are drifting and extracting pay dirt to sluice when then water runs; some are repairing ditches and others are opening up claims for active mining in the Spring. It is his opinion that there will be over twice as much gold taken out in Bannack next summer as there was the one just past. Horse Prairie, 30 miles from Bannack, is destined next summer to be one of the greatest gold producing mines of any placer diggings in the Territory. The pay ground is very rich and covering a large surface.

Active preparations have been going on all winter in the tunnel which is being run across Hunter's Bar. The bar is some 400 feet wide, and this tunnel is being run across the channel, keeping on the bedrock which slopes from the rim-rock to a depth of 17 feet, at the distance of 300 feet, the length of the tunnel. This bar is some 2,400 feet long and is from 9 to 18 feet deep, containing good pay from the grass roots to the bed rock. It is supposed that it is the old channel of Confederate Creek.

The Granite Mountain Co., in Tucker's Basin, have run a tunnel over 300 feet in length on the Granite Mountain Lode, and extracted a large quantity of rich pay quartz. Another tunnel, 210 feet in length, has tapped the Levi Blossom at a depth of 70 feet. Shafts respectively 60 and 75 feet have been sunk in the Winscott, Munson and Merritt Lodes, and developed true and permanent veins. As high as $2.50 to the pan has been repeatedly taken from a single panful of the crevice dirt. On the discovery claim of the McClellan Lode a shaft and two tunnels have been excavated. The vein exposed in their workings is 12-15 feet wide, with well defined walls. Actual milling results, as well as numerous assay returns, have shown that every portion of the vein matter contains free gold in largely paying quantities. Numerous runs made on the quartz from this district in the mills at Unionville have yielded as high as $78, and none less than $15 per ton.

OREGON.

Jacksonville *Sentinel*, Feb. 13th: Duffy & Co., at Pickett's camp in Josephine county, are taking out an ounce per day to the hand. Water plenty and ground unlimited.

WASHINGTON.

New Coal Fields.—Edward Giddings, Esq., Chief Clerk of the Surveyor-General's office at Olympia, (W. T.), informed the editor of the Oregon *Herald* that parties have recently discovered the largest and deepest coal beds ever before found in that Territory, located near the military road between Claquato and Shookum Church. He, together with three others, have entered 1,400 acres of land covering this mine, and he is on his way to New York to negotiate a sale of shares therein. The discovery is said to be the most important of the kind yet known, and he seems quite sanguine that its proceeds will yield an immense reward.

WYOMING.

A correspondent writing from South Pass City to the Nevada *Gazette*, under date of Feb. 1st, gives the following: Tozer and Eddy's mill suspended operations about the 1st of November, after an exceedingly rich run of four months. The Miner's Delight mill (steam) commenced running with ten stamps on the 14th of January, and cleaned up $8,000 after a 12 days' run. Anthony, of Colorado, is bringing a ten stamp quartz mill into the country. The Young America Co. are getting out timber for their mill building. The mill is to be here as early as possible in the spring. Arrangements have been made for procuring other mills. Developing and prospecting goes bravely on. Of the several important discoveries made recently, the Nellie Morgon lode is perhaps the richest. The times are good. Wages for miners are five dollars per day.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

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Mr. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, March 6, 1869.

Notices to Correspondents.

VELOCIPEDE.—The title originally applied to this machine was exactly the same as the one which you have assumed as a *nom de plume*. We are informed, however, that soon after their introduction they were contemptuously called dandy hobby-horses, and sometimes for briefness, "hobby-horses." The same informant states that the newspaper paragraph which dates the history of the introduction of velocipedes to the days of Pitt, Fox, and Sheridan, is equally erroneous, none of those having ever had the opportunity of witnessing one of the machines, much less of having made spectacles of themselves by being seen astride of them in the London Park. Velocipedes were not brought into public notice until after the battle of Waterloo, (1815) by which year all the statesmen named had departed this life.

PROTOZOAN, Napa County.—Silicious formations composed of the exterior coatings of minute organisms similar to those you describe, generally are to be found in many geological formations, especially over our Cretaceous ones. They appear to have existed during all time, and continue to exist, for Ehreuberg calculates that there are formed annually in the mud deposited in the harbor of Wismar, on the Baltic, 17,496 cubic feet of silicious organisms. These silicions infusoria are said to form a mouldy covering, about half an inch thick, upon stagnant water during warm weather. Although it has been calculated by the microscopist named that one hundred millions only weigh one grain, yet he has stated in *Poggendorff's Annals* that he has collected as much as one pound in the course of an hour.

B. P.—Becquerel found that when laminæ of gypsum were immersed in a very dilute solution of silicate of potash in a loosely covered vessel, the atmospheric carbonic acid gradually decomposed the silicate, and the carbonate of potash converted the sulphate of lime into carbonate. At the same time granules or laminæ of silica separated, which was capable of scratching glass, and contained 12 per cent. of water. Very thin laminæ, of the same hardness, were found at the bottom of the vessel; when acted upon with a hot solution of carbonate of potash, they left transparent laminæ, which, when examined with two of Nichols' prisms, presented the colors peculiar to doubly refracting crystals; from which it was inferred that they were quartz.

A. L., Washington District, Idaho.—Your very acceptable account of the permanent mining that has developed itself in the Salmon River country, is received, and will appear in our next issue.

THE SUEZ CANAL.—Mr. Lange, the English representative of the Suez Canal Company, announces that the canal will be "completed and open to the general navigation of all countries on the 1st of October, 1869."

Time by Telegraph.

Professor Davidson, of the Coast Survey, is making a specialty of telegraphing time, or, in other words, of determining longitude with the aid of the telegraph; and his operations at his temporary observatory on one of the public squares are, if our daily contemporaries are not overdoing it, calculated to "attract the attention of the scientific world." The American method of determining longitude has the merit of being very simple, and accurate; but it is not very new, and the probability does not appear very great, as one might be led to suppose from reportorial accounts, that Professor Davidson is about to inform us that we are actually in a different part of the world from what we have imagined ourselves to be in.

It is eminently practical, and very meritorious on the part of Professor Davidson to place time telegraphing on a good working footing on this coast and in connection with our great unsurveyed interior, where the telegraph wire passes through countries whose position has not yet been located on the map, and where the traveler in possession of the best existing data is more likely than not to find himself from ten to a hundred miles out of the true reckoning. Every telegraph station in the land may thus be used as a surveyor's starting-point, so far as the longitude is concerned; the latitude being quite easily and accurately obtainable by means of the solar compass, or sextant.

As a preliminary to the above practical ends, Professor Davidson has been experimenting in the telegraphing of time to the greatest distances at present within the command of the telegraph. Two obstacles are encountered: waste of electric power in the moist air on land-lines, from imperfect insulation; and in ocean cables, or in the case of perfectly insulated wires, the melting of the cable or wires on the application of the same powerful current that is made use of on land. The former difficulty is easily overcome by means of a dozen or so telegraphic repeaters; the latter renders the problem at present impracticable to telegraph time reliably any farther than to Newfoundland.

The instrument made use of in telegraphing time is the chronograph, which is thus described:

Essentially, it is a revolving cylinder, propelled and regulated by clock-work. It is covered by a sheet of white paper, and when revolving, a continuous spiral line is traced by a pen, connected to the armature of a small magnet in the local circuit, passing through the clock. At each oscillation of the clock pendulum the circuit is ingeniously broken and the armature relieved, causing a lateral movement of the pen. This break lasts about one-twentieth of a second, and when the circuit is again complete the pen resumes its former position in the line. By an insulated prolongation of this pen armature, a break is also made in the main circuit leading to Cambridge, and is recorded on the chronograph alongside the clock pen of that observatory. Thus there are two pens recording simultaneously on the chronograph—that of the Cambridge Observatory making a black line, and the other, of the local clock, tracing in red. Signals are transmitted each way for five minutes, and each observer sends word to the other of the hour and minute of the five-minute work accomplished.

Each stroke of the pendulum makes a break in the mark, and the length of the space between the commencement of the break in the red line and the commencement of the next break in the black line shows the variation between the clocks, and, supposing their time to be accurate, the longitude, after allowing for the time lost by the current in traveling. On Sunday night two wires were used, and the current from San Francisco passed through Cambridge, 3,500 miles distant, and returned here, making a journey of 7,000 miles in eight-tenths of a second, the greatest length of wire ever used for a similar purpose.

Since 1852 Professor Davidson has made three hundred independent determinations of longitude at San Francisco and other points on the coast, by the ordinary astronomical and chronometric methods in use in the Coast Survey. The telegraph must confirm the results taken from the sun and stars. As the sun travels a quarter of a mile in a second, the minuteness to which longitude can be determined telegraphically with the aid of the chronograph is, theoretically, about to a Gunter's chain, or sixty-six feet.

DRY BARREL AMALGAMATION.—Mr. A. B. Paul, at the Miners' Foundry, and Mr. Hester, at Mosheimer's works, are both using and experimenting in a dry barrel amalgamation process, for the reduction of sulphurets, etc., the results of which are claimed to be very flattering. The former has had his process in operation for several months, and has been making careful assays of the work, but has interdicted newspaper mention of the process until he should be in a position to present his results in a more tangible shape. In principle this dry barrel process appears to be very similar to the Ryerson process. Mr. Hester's machinery and process are thus described in the *Times* of March 1st:

It consists of three barrels, one of cast iron and two of wood. The iron cylinder is about half filled with sulphurets or pulverized ore, and revolved over a moderate fire for one hour, keeping it below a red heat. The ore having been thoroughly heated through, is drawn out into a wooden cylinder, and 10 per cent. of quicksilver added, and the opening then made air-tight, to prevent the fumes of quicksilver from escaping. After revolving for two hours, the ore and quicksilver are found to be intimately mixed together, and the gold and silver amalgamated. The charge is then drawn off into the third barrel and diluted with water, and after revolving for two hours the quicksilver and amalgam are drawn off. The secret of this process is in this last barrel, used as a settler, for, in every instance, with the most refractory arsenical sulphurets, and with combinations of lead and iron, the quicksilver is found at the bottom, collecting and forming an amalgam containing nine per cent. of the gold and silver, while the only appreciable loss in quicksilver in a month's working was what was spilt by carelessness outside.

STATISTICS OF NEVADA SILVER PRODUCTION.—The Comstock lode produced,—according to statistics given in the *Commercial Herald*,—up to April 1st, 1866, $51,380,580; since then an average of $11,000,000 annually, or a total of $85,000,000 to the first of April, 1869. The Gould & Curry, from 1860 to 1866, yielded $13,626,871, from 230,546 tons of ore, or $59.02 to the ton, the content afterwards falling off to $18.14. The Savage yielded in seven years preceding July, 1868, $11,327,700, from 270,521 tons of ore, or $41 to the ton. The cost of reduction at Virginia City was originally about $30 to the ton, and now stands at about $20, where it will remain until cheaper agencies, or methods, are introduced.

From Lander County (including White Pine) a three months' return ending December 31st, 1868, shows that 49 mines have produced 2,493 tons of ore, yielding $870,554.45, or an average of $349.20 to the ton. With the possession of the Comstock Lode and the White Pine District, Nevada can "flourish her silver scepter in the face of all the world."

THE *El Dorado*, edited, published and printed by ladies of this city, has made its appearance, and is running the gauntlet of criticism. To those who may see the *El Dorado* the fact will be of interest that its attractive engraved head, representing the Golden Gate and ships at sunset, was also executed by a young lady.

THE *Conducta* which left the City of Mexico about January 28th, for Vera Cruz, took over three millions of dollars down for exportation, on which eight per cent. export and circulation duties were paid.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

The Rivot Hydrogen-Burning Roaster.

The proprietors of the Rivot revolving iron cylinder patent, for the roasting of sulphurets with the aid of hydrogen, seem to have more than presumptive or theoretical evidence of the practical success of that process, in point of economy of roasting, judging from the enormous expense that the moneyed men in the business have felt justified in going to, in the French Company's extensive works at Canada Hill, near Nevada City. The transportation of the casting (weighing 21,600 pounds), from Colfax to Nevada, a distance of fifteen miles, has alone cost from $1,000 to $1,500, it having been found necessary to strengthen the bridges on the way; and the same company has already expended, on the works at Canada Hill, for the treatment of sulphurets by the Rivot process, about $100,000. We may look, accordingly, for an important success, or for a more than commonly remarkable failure. The claim is that gold can be extracted within 4 per cent. of the assay, which may be very correct, that being more a matter of proper roasting than anything else; but the important consideration in the case is the comparative cost, in regard to which we shall probably be enabled to inform our readers more definitely soon. Some idea of the working of the cylinder roaster can be gained from the following, in the Nevada *Transcript*, of March 2d:

It is fourteen feet long, and the space intended for the furnace is ten feet in length, and five feet in diameter. This space has eight or ten triangular projections, which are intended to throw the sulphurets towards the center of the cylinder as it revolves. The casting is to be rigged on machinery, and at either end it will be closed. It is intended to revolve slowly, while the sulphurets are charged with superheated steam and roasted.

MACHINE WORK AT SACRAMENTO.—We learn from H. F. Root, of the Union Foundry, Sacramento, that the machine and foundry work is now quite brisk. Messrs. Williams, Root & Neilson, have orders on hand for two 14-inch engines, 5 feet stroke, for C. S. N. Co.; a pair of 12-inch cylinder and 4-foot stroke engines, for steamer San Joaquin, owned by a joint-stock corporation, known as the Towing Company, to run on the Sacramento River; a 14-inch cylinder, 30 inches stroke, for McCreary's new flouring mill, on Front street—the above engines all to be furnished with Cross' patent boiler-feeder, and sediment collector; a quantity of saw mill work for Jones' mills at Truckee, State of Nevada; besides a large lot of miscellaneous jobbing and manufacturing. Mr. Root also mentions that mechanical business, and most trades and manufactures, are progressing lively in the "city of the plains."

HORIZONTAL REVOLVING AMALGAMATION BARRELS.—At Gold Valley, Sierra County, amalgamation barrels are used, made of pine wood, and revolving horizontally like a butter churn instead of vertically like the Freiberg barrel,—twenty revolutions per minute, for about twenty hours to the charge. It requires three barrels (four feet long and two and one-half in diameter), to do the work of one pan; but the latter is said to cost ten times as much, and requires twenty times as much power.

SNOW BELTS IN THE SIERRAS.—A writer in the *Union* attempts to show that there are four transverse snow belts in the Sierra Nevada range, between each of which the fall is slight and the obstacle to railroading, on that score, insignificant. The causes he thinks are independent both of altitude and latitude. One of these belts is at latitude 37° (Yosemite Valley), not extending as far north as the Sonora Pass; another is the Donner Lake belt; towards the south, the Inyo County belt; and the Shasta belt, about latitude 41°.

Velocipedism.

The *bicycle* is now thoroughly acclimatized, and an institution in our midst. The number of the vehicles of this kind in the city has grown beyond our counting—and from our exchnages we infer that the interior is also getting well supplied everywhere, as far as Salt Lake city. Manufacturers in this city have found the making of them to be quite a business. Every newspaper has an item on the subject. In the way of new inventions, there is little to report. It is held by many that the three wheeled velocipedes are too simple and easily worked to afford the diversion which makes the use of the two-wheeled ones so popular. We observe in the last number of the *Scientific American* an illustration of a steam velocipede, and also of a *one*-wheeled velocipede; but the genius that would ride the latter has not yet immortalized himself.

A velocipede excursion party to the Cliff House, a little while ago, was not a perfect success. The excursionists appeared in very high spirits while going out; but observing parties who returned from there at a late hour, reported them belated, out of spirits, dejected in appearance, and making slow progress towards the city. It is evident that amusement, not utility, is the strong point of the velocipede.

It now appears that there is a patent on the velocipede in this country, taken out by a shrewd Frenchman in 1866, though there is nothing of the kind in the old country. Several New York and Newark, N. J., firms, have suspended operations, having discovered on the patent records the following: "Patent No. 59,915, Pierre Lallament, Paris, France, assignor to himself and James Carroll of New Haven, Ct., Velocipede; Nov. 20, 1866. The fore wheel is axled in the jaws of a depending bar. This wheel is revolved by a treadle-crank. Claim: The combination and arrangement of the two wheels, provided with the treadles and the guiding arms, so as to operate substantially as and for the purpose herein set forth. This patent is claimed by a Mr. Calvin Witty, of New York.

The Gas Engine or "Moteur Lenoir," imported from Paris by Mr. Derbec, and now driving the press of the French *Courier* of this city, has justly won great favor amongst those who went to the *Courier* office to witness its operation. It is so simple, and cheap, costing $250 plus 30 per cent duty and transportation, and furnishing half a horse-power French, equal to several horse-power English computation, and can be used in any parlor where there is gas, at 15 cents an hour, without delay as in getting up steam—that in all probability it will soon come into extensive use; and in view of the interest taken in the matter we will endeavor to furnish our readers a fuller account of the points relative to it and an illustration of the machine in a future number. The *Herald* reporter says of it:

"The gas engine resembles in every respect a steam engine, only the cylinder is a little larger, and there are two valves instead of one. Through one of the valves a mixture of ninety per cent. of air and ten of our common gas is introduced in the cylinder. This mixture is ignited at both ends of the cylinder by an electric spark. A part of the oxygen of the air consumes the carbon of the gas which produces carbonic acid, and hydrogen. The whole of this gasiform matter, like steam, forms a pressure on the piston, which sets the machine in motion. The other valve is intended to let off the residue of the consumed matter. A one-horse power gas engine consumes about forty feet of gas per hour."

The California Medical Gazette for March contains a continuation of Dr. Stout's paper on Hygiene and Seworage in San Francisco; do. of Dr. John Scott's paper on Uterine Displacements; editorials on small pox, etc.; and a report of the meeting of the California Medical Society, besides a number of selected articles of importance to the medical profession.

The Locher Steam Plow.—We have received the following from one who was present at the recent public trial, at Oroville, of Locher's steam-plow—of which we will furnish an illustration and full description in the Press in due time:

Editors Press:—It is with pleasure that I give an account of the successful trial of Locher's steam plow.

The farmers in this vicinity are highly elated with the result, as also several gentlemen from your city and from Solano county.

The plow was started at ten o'clock, and plowed up the field at the rate of three acres per hour, cutting eight inches deep; there were some stumps and large boulders in the field, which retarded the speed of the plow some. During the day the plows came in contact with a stump, and a few of the points broken; but it could scarcely be noticed in the work they performed. The farmers express themselves freely, that it is impossible to put the soil in as good condition with a gang-plow and harrow, as this plow leaves it at one operation.

The machine is mounted on six wheels, which are all driven by the engines, by means of gearing, so in turning a curve each wheel adopts the speed the curve requires; this is accomplished by the application of equalizing gears. On a straight track the six wheels have the same speed. The boiler rests on the front and middle wheels, in the rear of which there are a pair of ten-inch engines, which drive the wagon and plow by means of gearing. The thirty-nine ploughs are on a transverse shaft, in the rear of the machine, and cut a swath of twelve feet wide; the shape of the plows is such as to turn and pulverize the soil.

A Farmer.

Oroville, March 2d, 1869.

The New Light.—The "bourbouze" light, produced by throwing upon a pencil of magnesia equal parts of common street gas and oxygen, "literally,"—says the *Scientific American*,—"throws all other lights in the shade. We tried it with a sheet of white paper corrugated, and inclined so that portions should be thrown into shadow, thus magnifying any motion that might be imperceptible to the unaided eye, but could not detect any motion whatever. So brilliant and pure is this light, that the ordinary gaslights look like spots of sickly and ghastly yellow when placed between the eye and the pure white illumination of the bourbouze burners."

Professor Doremus, at a recent lecture at Steinway Hall, New York, described this light, and the manner of preparing the oxygen by passing superheated steam over manganate of soda. Among the advantages claimed for the light are the saving of 30 per cent. of cost, and the diminished effect in deteriorating the air of the metropolis,—since it does not, as is the case with common gas, rob it of its oxygen.

Officers Elect of the Mechanics' Institute.—The result of the annual election held on Monday last, is as follows: President, A. S. Hallidie; Vice-President, J. R. Wilcox; Treasurer, H. L. Davis; Corresponding Secretary, J. H. Gillmore; Recording Secretary, George Pardy; Directors, William C. Pease, John Hancock, D. R. Coleman, Jacob Browning; George C. Hickox, H. P. Herrick and H. C. Macy. For directors there were two opposition tickets, besides the regular one; the successful one being one of the opposition. The successful ticket comprises many of the old officers, who have been well tried and were popular. The President and several others were reelected by a unanimous vote, the total number cast being 254. Mr. Cherry, Chairman of the Committee on Election, installed the new officers on Thursday evening, giving them an excellent address. The annual address of the President was well received.

Public Conveyances, Etc.—The weekly and monthly tabular publications interesting to business men, travelers, freighters, etc., of the *Commercial Record*, F. R. Voight, publishers No. 33 New Merchant's Exchange, are received regularly, and are found always up to date, and of great convenience to everybody.

Committee on Earthquake Topics.—At the meeting of this committee, on Thursday evening last, it was "Resolved that the Secretary be directed to notify each member of 'the Joint Committee,' by the insertion of a copy of this resolution in each notice calling the next meeting, to be held on Thursday evening next, that the reports of the Secretaries and some of the sub-committees will be read at that meeting, showing the present condition of the inquiry, and that it will then be proposed that the Joint Committee do adjourn until such time as all the sub-committees will be ready to make their final report. For the above objects the attendance of every member of the committee is particularly requested.

Excellent Paper Again.—We have now received a large stock of superior printing paper for the Press, shipped direct from the East for ourselves. For the past few weeks we have had to buy our paper here, and although we secured the best newspaper stock afforded in this market, it was very unsatisfactory, compared with our usual quality.

The Islands of Pyramid Lake at this season are thickly covered with the eggs of gulls, ducks, pelicans, and other aquatic fowl, that have crossed the Sierra. The Indians never visit them, on account of some local superstition.

L. Carpenter.—The Postmaster at Benton Harbor, Michigan, says the copy of this paper, sent [by some individual] to the above name, is not taken out.

Returned.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

O. M. Taylor, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office, without fail.

O. M. Taylor, who acted as agent—*for a very short time*—for this paper in the State of Nevada, last August, is requested to call at this office and attend to business matters on that account.

Photography.—For Cabinet Photographs, or Enameled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
10v18 6m B. F. Howland.

Co-Operative Union Store.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v18-3im

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☞We are glad to learn that the "Pain Killer" is having so large a sale in our city. We have every reason to believe it to be an almost never-failing cure for pain, and a medicine that no family should be without.—*Montreal Pilot.*

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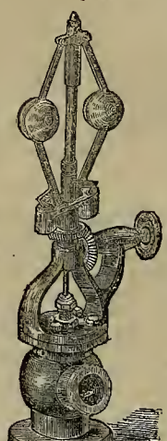

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[Written for the Mining and Scientific Press.]

From the Mount Diablo Coal Mines.

EDITORS PRESS:—On a visit to the coal mining region of Mount Diablo, the first place reached after leaving Antioch, on the San Joaquin, is Somerville, a mining town situated 760 feet above the sea. Here are three very large mines, which are worked, however, only ten hours out of the twenty-four. Nearest to Antioch is the Pittsburgh mine, of which Mr. C. E. Clark is the Superintendent. The discoverer of the vein was a brother of the present superintendent, and died three months ago. I was kindly piloted through the Pittsburgh mine, and found fifty men employed in getting out coal. We went down 300 feet on an incline and struck the Clark vein, which is three feet thick; then went up in the cars for 200 feet and struck another vein, the Black Diamond, which was first discovered by H. S. Hawxhurst, in digging a well six miles from this place. The shaft is down 500 feet. Coal is brought out of a tolerable quality at the rate of 2,000 tons per month. It is immediately dumped into the railroad cars and run down the grade without engines, to Pittsburgh landing, and there dumped into flat boats for different destinations. The railroad is owned by another company, which carries all the coal for the Pittsburgh, Union and Eureka mines.

The next mine is the Independence, 200 feet below the Pittsburgh. This mine is at present standing still, but I am told that it will be running again in three or four months. It is 700 feet deep, and has produced quantities of very good coal; but the water in the mine is so acid that the iron pipes, boilers, etc., for pumping, were eaten through in a day's time, and it seems that the company cannot get the water up through metal pipes. I am told that at places where the water dropped on the pipe, holes were eaten through the latter in the course of the very first day the pipe was placed there. A few drops, the miners say, will go through thin pipe in twenty minutes. For use in the boilers, good enough water could be obtained from the other mines situated above this.

The Eureka mine is about 300 feet from the Pittsburgh, and is in active operation under the superintendency of Mr. R. Wingate. The shaft is down 600 feet. Number of men employed, fifty-five. There are two engines in the mine, one for pumping water and the other for hoisting to the first level. Steam is carried to the engines by means of 2-inch, covered pipes. A good deal of bad air has been experienced in this mine, but a ventilation shaft was opened, and boxes were constructed to carry it out, since which there has been no difficulty. Product, 2,000 tons per month. In this, and in all the other mines, the men are paid by the yard; here the price is $1 per running yard, the vein being three feet thick.

The Union mine is a quarter of a mile from the Eureka, and employs sixty men. The Superintendent is Mr. George Hawxhurst, brother of the discoverer of the Black Diamond vein. There are two engines in the mine, one for pumping, and the other for hoisting to the upper level. They are down 600 feet.

The Manhattan is a small mine between the Union and Enreka; it is standing still at present.

We now leave Somerville and cross a ridge west of the town, to Nortonville, 1½ miles distant,—the locality of the Black Diamond Company's three mines—owned by the California Steam Navigation Company—a sooty black spot, showing much activity. These mines turn out 6,000 to 7,000 tons of coal per month, and could turn out 11,000 if there were a demand for that amount. As the coal, when exposed to the atmosphere for more than a month or two, is liable to ignite, the aim of the company is to take out just what they can sell for the season, thereby avoiding loss. Large piles of self-ignited "slack" may be seen burning night and day at the mouths of the mines.

The number of men employed by the company is 325, and the wages are $1 per yard. A man will get out from two to six yards per day.

Not only does the Steam Navigation Company own these mines and the railroad

leading from them to New York landing, about six miles distant, but they have made arrangements with the Pittsburgh, Eureka and Union mines, to take 500 tons of coal per month from each of them for five years to come; thus gaining the control of the market.

Two very large engines are used in the Black Diamond mines, one for hoisting and the other for pumping. Both the Clark and the Black Diamond veins are well developed here,—the latter furnishing the best coal in the district. The veins seem to be broken in a good many places.

Both at Nortonville and at Somerville the veins dip to the northward, varying in different places with the coal measures, from 26° to 38°. The country rock is sandstone of Cretaceous age, which is immediately overlaid by strata taken by Whitney to be of the Eocene Tertiary formation.

W. H. M.

A Private Word About White Pine.

EDITORS PRESS:—As an offset to some of the flourishing letters from White Pine, which constantly appear in the papers, I send you an extract from a private letter received from a man who went from here about two months ago, and who is personally known to me. The letter is dated Silver Springs, February 3d. He says:

"This country is one grand swindle, and overybody is *on it* as big as a skinned horse. As for myself, I can't make up my mind that I can swindle anybody, therefore I appear perfectly helpless. * * * Think you did well to stick to Lone Pine. You will spend a much more pleasant winter than I, for I can assure you it is as cold as," (it is supposed the writer meant, as Heaven); "still we have had a very moderate winter for this country; the snow lies now about a foot in depth, but yet it don't seem to stop the travel. Every stage comes loaded. To tell you the fact, I think they are coming to be humbugged. Yet those who go into "business" will make money, but a man can do nothing here without three or four thousand dollars. I have been told by two different persons, that they would furnish everything for me to start business, if I could get a house; but I can't get one for any price, without it is in some out of the way locality. * * * Keep me a stall in the stable to sleep in next summer, as I will be there as sure as I live. It costs $5 a day to keep a horse here."

The writer certainly gives only one side of the picture, but it is *the* side which many who go there will have to encounter. His letter has diminished the intensity of the fever hereabouts. C. H. AARON.

Lone Pine, February 21st, 1869.

MINING VS. AGRICULTURAL CLAIMS.—The Register and Receiver of the Sacramento Land Office, on the 18th inst., decided in favor of the Treasury mine, as against agricultural claims. This mine is situated about half a mile above the Eureka mine. The Eurekita and the Branch Mint claims, situated in the same neighborhood, were decided to be mining and not agricultural lands a few weeks ago.—*Grass Valley Union, Feb.* 21.

STORM TELEGRAPHING.—It has been ascertained that the storms which visit France come from the Atlantic, with a single exception, viz., that of local storms engendered by the winds of the Mediterranean when they skim the declivities of the south-eastern coast. It has, however, occasionally been observed that when the clouds proceeding from the sea have covered the sky in the maritime departments, thunder and lightning are observed in the inland ones.

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(Successor to G. W. Bell.)
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Mining Secretary.

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Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

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East of Montgomery.
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Attorney and Counsellor at Law,
Court Block, 636 Clay Street
SAN FRANCISCO.
2v18-1qy

PACIFIC
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OF SAN FRANCISCO, CAL.,
Office, No. 422 California street.
Cash Assets, Jan. 1, 1869, - - $1,529,740 18
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"A SUCCESS UNPRECEDENTED."
[See following extract from the Globe of May 14, 1868.]
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Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.
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JOHN W. QUICK, Manufacturer,
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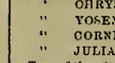
Screen Punching in all its branches, at rates reduced from 25 to 40 per cent less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.
N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

California Steam Navigation

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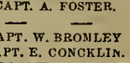
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Prices varying from $1 50 to $2 per day for Board and Room.
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☞Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
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(Patented July 21st, 1868.
The undersigned, having purchased the Patentee's interest in the States and Territories of the Pacific Coast, is now prepared to supply Private Houses, Hotels and Steamers with this comfortable, economical and durable "IMPROVED SPRING BED BOTTOM."
Persons going to White Pine will greatly promote their comfort by taking one of these Patent Bottoms, which is secured to a folding Bedstead, the cost of which is less than that of the materials at White Pine.
Wareroom, No. 1002 Market Street,
P. HUDSON, Proprietor.
☞Call and examine. Open until 8 o'clock P. M.
6v18qr

Railroad Items.

MR. BANNING, the Superintendent of the Wilmington and Los Angeles Railroad, says he will have that road completed and the cars running by the 1st of July.

JULIUS A. SKILTON, represeuting an American company, has received the concession to build a railroad from Paso del Norte, Mexico, to Guaymas, or some other point on the Gulf of California.

THE *Bulletin's* City of Mexico correspondent says a railroad will be built from Zacatecas to la Villa de Guadalupe, and J. M. Ramos has been already appointed engineer to make the necessary surveys.

THE Vallejo *Chronicle* mentions n rumor to the effect that the California Pacific Co. have purchased the Napa Railroad, which is to be at once extended from Calistoga to Healdsburg, and completed during the present season.

A WELL known citizen of Storey county, says the *Enterprise*, has gone to Washington to secure a land grant from Congress to aid the construction of a railroad from Elko, on the Central Pacific, via. White Pine, to Callville, on the Colorado, at or near which point it is intended to intersect the Southern Pacific.

THE ship Edith, from New York, laden with stock for the Central Pacific Railroad, and lying at Vallejo street wharf, on Feb. 25th unloaded six locomotives, named "White Eagle," "Roller," "Herron," "Eagle," "Jupiter," and "Rambler," all complete and in good condition.

BY June or July the Santa Cruz and Salinas Railroad—says the *Sentinel* of Feb. 27th—will he surveyed, located, and the compauy duly incorporated. The alignment survey and working plans will he made and grading commenced soon after. The parties interested in the road are said to have ample means to complete the work.

From Colima we learn that Mr. Gibbs, one of the directors of the Vera Cruz and Mexico Railroad Company, has arrived from England, and it is hoped that the work on the line will be taken up with more energy. The line from Mexico to San Augustine de las Cucoas is finished, and an American company has received the concession to build a railroad from the Rio Grande, near El Presidio del Paso, to Guaymas, or some adjacent point.

THE late snow storms in the Sierra have been unusually severe. The snow hetween Coburn's and Alta, a distance of fifty miles, was from five to fifteen feet deep, and at one gorge the snow plow was pushed by four locomotives, and they heing insufficient, their number was increased to nine, which were used for about three miles to burst through the drifts. The trains were five days getting through from Coburn's to Sacramento.

THE *Mountaineer* is informed by a letter from Boise City, that Col. Hudnutt, chief engineer of the Idaho and Oregon branch railroad, says that the road will most prohably pass up the Malhuer river, cross the Blue Mountains through the lower pass at the head of John Day river, and continue down on this side of the mountains through the rich and fertile valley of the John Day river to Dalles City, aud thence down the Columbia.

THE Peruvian railway lines in progress, viz., hetween Arequipa and Mejia and the one from Lima to Huacho, are being actively proceeded with. The line that is to connect the Capital, Janja, and eventually Cerro de Pasco, appears also to be seriously thought of, say the south coast correspondeuts, and not to remain a mere project as et first supposed. Mr. Joseph Hindle, an eminent English engiueer, has set out for Janja to make a final survey, and on his returu it is reported active operations are at once to commence.

COL. HUDNUTT, the locating engineer of the Union Pacific Railroad, is now nbout at Farewell Bend of Snake river, marching steadily on with a corps of eighteen engineers and four supply wagons, and making a very thorough survey and examinatiou of the route. If a grant of land is given this company, and uo extraordinary money crisis arrives before spring opeus, it is expected that this hranch railroad will he put under contract from the north end of Salt Lake to some point on the Columbia river, early next spring. At the rate of speed that has been obtaiued in construction, the road will be in running order to the Columhia river by July, 1870.—*Portland Oregonian, Feb. 15th.*

THE hreaking of the dam on the outlet of Clear Lake, has lowered the water in that lake eighteen feet.

Engineering.

OPERATIONS AT LIVERMORE PASS.—A correspondent who recently traveled through Livermore Pass and witnessed the railroad operations in progress there, states that powder is being used at the rate of 1,200 kegs per month, and that a considerable force of white men and Chinamen has been employed, which is to be increased in the spring to 1,500 men. Instead of going through the pass along its lowest practicable route, the road skirts the spurs and ravines high up on one side of the pass at a heavy cost for construction, then crosses the pass near its highest point by a great trestle hridge, and strikes through the mountain on the opposite side by a tunnel 900 feet long. Ahout six miles beyond the Mountain House, or thirty miles from Hayward's, the country becomes perfectly level, and continues so to Stockton and Sacramento.

BRIDGING NAVIGABLE RIVERS. — The steamboat interests on the Mississippi and Missouri river have sent a delegation to Washington to procure the passage by Congress of a law compelling railroad compauies to construct bridges hereafter to be huilt over the navigahle Western waters, with one unbroken span of at least 450 feet. It is the opinion of the Senate Committee that the long span will he approved by Congress, and that the hill of Mr. Drake, making it applicable to the Mississippi and Missouri rivers, will pass.

RECLAMATION OF TULE LANDS.—The tule lands, says the Stockton *Gazette*, can all, or nearly all, be reclaimed by cheap and simple eugineering, and when reclnimed will be found easily cultivated, and unsurpassed in productiveness. These lands can be reduced to cultivation at a cost not exceeding ten per cent. of the cost of reclaiming the sugar lands of Louisiana, or the rice lands of South Carolina; while their annual yield would greatly exceed the product of any other rice fields in the world.

GRADING AND PAVING.—The City Paving Company have the contract for grading, sewering and paving with the "Stow Fouudation" pavement, the extension of Montgomery street, from Market to Howard street. They will also lay asphaltum sidewalks about 15 feet wide. The new street will he ahout six feet wider than Montgomery street.

THE Cosumnes bridge, on the Western Pacific, will he a Howe truss, 600 feet long, and the trestle work immediately connected with it will be 800 feet long, while another piece of trestle work over a slough through which the waters of the Cosumnes run in flood time, will he ahout 300 feet long, thus making an opening for the waters of the river of 1,700 feet.

COST OF PILING FOR FOUNDATIONS.—One of the buildings on California street, near Sansome, which was badly injured hy the earthquake, is ahout to he replaced by a more suhstantial structure, which is heing huilt upon piles. The lot has a frontage of 100 feet by a depth of 89 feet, and the piling of it has cost $20,000.

CABLE BETWEEN CUBA AND SPAIN.—The Spanish Minister of Marine and the Colonies has invited tenders for the establishment and working of a submarine cable hetweeu the islands of Cuba and Porto Rico, the Canary Islands, and some point ou the Spanish coast.

TELEGRAPH MATERIAL.—We noticed upon the wharf of the O. S. N. Co.'s wharf, yesterday, a large lot of telegraph wire which the Company is about to ship up the Columhia to he used in the construction of the Portland and Boise line.—*Portland Oregonian, Feb. 20th.*

MISSION rock is being graded off to a safe point above high-water mark, in order to adapt it for the ways and docking apparatus now at the foot of Second street, helonging to H. B. Tichenor.

THE sea wall has been extended nearly to Market street, and a dredging mnchine is at work north of Market street removing mud from the proposed foundation.

THE frame of the hridge to he huilt over the river at Marysville, will he made at South Vallejo.

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ESTABLISHED.....MAY, 1860.

Mining and Scientific Press

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Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

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In lots to suit at regular wholesale rates.

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It is Death to Fleas and Vermin, but not injurious to persons.

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After a thorough test you will use none other.

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It is the best and cheapest article of the kind ever offered to the public.

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White Pine Items.

Some very able correspondeuts have got to White Pine, and are contributing letters to the leading journals; every newspaper in the State having·its special correspondent, present or prospective, from Eastern Nevada. "Chloride," in the Virginia *Enterprise*, writes a series of letters, telling in an entertaining manner the story of the discoveries that were made up to last Fall, and the manner in which title to the rich deposits has become tangled up at law.

It is saddeuing—at our distance—to read the following account of one who recently went over 65 miles of the White Pine road: "The weather was intensely cold, the snow deep, and the entire country a bleak, timberless waste, with only here and there a black rocky peak piercing the surrounding banks and peaks of snow. The thermometer was below zero every day. The stations are exceedingly primitive, nothing but light tents for shelter to man or beast. On the road were crowds of men, struggling along on foot in the direction of the frozen El Dorado. The stages cannot afford transportation for all. At some points we encountered men making their way alone through the wilderness, carrying only a single blanket and a few ounces of provisions."

The thermometer has been ranging many degrees below zero, down to 16°, says the *Bulletin* correspondent of Feb. 23d, at Treasure City, and the snow falling thick and fast is tumbled by the fierce wind into heaps and driveu through the chinks of the ill-constructed habitations with a freedom that leaves its distribution pretty even in-doors and out. Cases of pneumouia, congestion of the lungs, erysipelas, etc., are still common, many of them proving very severe and fatal. Two hospitals are located at Shermantown—one a private and the other a public establishment. Into the latter persons in needy circumstances are admitted without charge, a fund having been raised by citizens for defraying its expenses.

The tide of immigration from the East has already set in. From ten to fifteen and twenty men were passing Ruby Station daily.

Results thus far at White Pine are summed up as follows: Four quartz mills have been completed, and several others gotten under way; three smelting works have been put up; nearly twenty miles of mountain wagon road, some of it very difficult and expensive, have been graded; and work, in a few cases very costly, and in all of greater or less magnitude, bas been done on about a thousand mines.

Though miuing and prospecting are only exceptionably possible, by reason of the extreme cold and snow, the business of forming corporations in this city is, if anything, increasing.

American Rifles.—The only repeating rifles uow made in this country are the Winchester, at Bridgeport, and the Spencer at Boston. The former is an improvement on the celebrated Henry rifle, carrying eighteen shots, and can be fired with great rapidity. The latter is a seven-shooter, and in Sherman's campaign through Georgia six men on a picket post armed with the Spencer carbine kept at bay some time a whole battalion of the enemy by the rapidity of their firing. These repeating rifles are used for hunting on the plains, and meet with much favor in foreign countries. American gun makers regard the famous Prussian needle gun as inferior in every respect to our best patterns.

Eighty Oxen Cooked per Hour.—The largest kitchen in the world is that of Liebig's Extract of Meat Company's establishment at Fray Bentos, on the river Uruguay, South America. The building covers an area of 20,000 square feet. In one hall there are four meat-cutters, which can dispose of 200 bullocks each per hour. There are 12 digesters, in which the meat is boiled by steam. They can hold altogether 144,000 pounds of beef. About 80 oxen per hour are actually slaughtered for this immense establishment.

Onions as Weather Prophets.—In Southern France farmers prognosticate the probable temperature of the season in getting in their crop of onions. If the weather is to be mild, they say the skins are thin, if severe, extremely strong and tough.

Births and Deaths.—A man, womau or child dies every second. Of births, rather more than one per second occurs. So the world's population increases.

A Hint.—Ground chicory sinks—Ground coffee floats.

Resources and Developments.

Among the resonrces of Los Angeles county is hydranlic lime or cement, of good quality.

The Los Angeles Canal and Reservation Company have 100 men at work, and expect to have their work completed in a short time.

The demand for public lands in Colusa county continues brisk at the land office in Marysville, and from 15,000 to 20,000 acres have been sold the past week or two at $1 25 per acre, currency.

Cork Tree.—The Tulare *Times* says: Mr. J. N. Thomas has a cork tree growing in his front yard, about three inches in diameter and twelve feet high, which grew from the seed, planted about seven years since.

The Stockton *Gazette* says A. O. Thomas and James R. White are fitting up a number of warehouses at the head of steam navigation on tbo San Joaquin, or rather on Fresno Slough, eight miles from tbo river. It is an important freighting point, and is in a rich sectiou of country.

St. George, in Southern Utah, has in operation eight sawmills, two shingle machines, ten flouring mills, two carding machines, and an extensivo cottou factery, owned by Brigham Young. Tbe principal product is raw cotten, for the successful cultivation of which the mission was established.

A Montana hunting party, consisting of six men, who went out for profit not sport, and remained in ono camp, a few miles below Kennedy's on the Missouri, since winter set in, have closed their operations for the season, having killed and sent to market 170 deer, 20 antelope, 91 mountain sheep, 16 elk, 4 gray bears, 2 panthers, and 11 lynx, which netted the party, from sales in the Helena market alone, upwards of $3,000 in gold.

Whaling Stations on the Northwest Coast.—Mr. Dawson intends establishing a whaling station on Cortez Island, in the vicinity of which be anticipates a good catch during the coming season. Another whaling expedition, under Capt. Roys, is preparing to start for Barclay Sound shortly. The schooner "Kate" arrived at Victoria from the Gulf of Georgia, with 2,400 gallons of whale oil, on Feb. 23d.

Semi-Tropical and Nut Trees.—In Los Angeles Co., says the *Star* of Feb. 20th, the purchasing and planting of trees is now very general. There is scarcely a wagon leaves town but carries with it a lot of fruit trees for planting. The prevailing kiuds are the semi-tropical, with the walnut and the more hardy and common fruits. On the "Brent place" at Los Angeles, Gen. H. B. Davidson has planted 250 walnut, 1000 orange; and 1000 lemon trees. Its value has tripled within a year.

Alaska Seals.—Joseph Krewskewsky and other natives of Alaska, stated before a committee of the Chamber of Commerce this week, that the number of seal that flock to St. Paul's Island each year is estimated at 3,000,000, while 1,000,000 visit St. George's. One of the witnesses thought that 150,000 could be taken annually; but another thought that to kill over 100,000 would destroy the trade and drive them away. One witness estimated the numbers taken last year at 202,000. The proper time for killing is abont the 25th of May, but they state that Hutchinson, Kohl & Co. commeuced killing in the latter part of March, and took at least 160,000 skins, of which they now bave about 100,000 on hand.

Solano County Quicksilver.—We have just been shown specimens of cinnabar taken from the mine owued by Mr. John Brownlie, near this city, which for richness equals anything to be found in the celebrated Almaden mino. The extent of the lead is not yet known, but Mr. Brownlie is sanguine of having struck a good thing, without having to go to White Pine.—*Vallejo Recorder, March 2d.*

Sale of Vallejo White Sulphur Springs.—It is currently reported on the streets, says the Vallejo *Recorder*, that Mr. Connolly bas sold the White Sulphur Springs near this city, for the round sum of $25,000, and that the purchasers intend to conduct the sulpbur waters of the spring to this city.

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.

SULPHURETS;

What they are;
How Assayed;
How Concentrated;
And How Worked;

With a Chapter on the

BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

For sale at this Office.—Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v1b1f

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Writers should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

IMPROVED INNER SOLES
—FOR—
BOOTS AND SHOES.

Those who have worn Daggett's Patent Elastic Ventilating Inner Soles, are unanimous in testimony that the correct principle has been hit upon and reduced to practical and successful use. The foot rests upon a cushion of air cells between points of vulcanized rubber, every cell opening freely into each other and through the space occupied by the foot. There is no contact of the foot with the wet bottom of the boot. The elastic points sustain the weight of the wearer, leaving an air space always, between the foot and all dampness. Every step compresses and restores the air chambers, thus constituting hundreds of air pumps, working at every step of the foot.

The rubber points will not absorb the moisture from the boot, so that the soft flannel which covers them is always dry. Their springing elasticity renders them of peculiar value to the aged and infirm, who feel the jar of walking upon hard substances, also to all persons whose business requires much walking or standing.

These soles are affording great relief to persons afflicted with rheumatism and consumptive complaints, chilblains, corns, cold and sweaty feet.

For warm and dry feet use the Patent Elastic Ventilating Inner Soles.

No. 15 Exchange Street, Boston, Oct. 15, 1867:—This may certify that I have used the Patent Elastic Ventilating Inner Soles, through the spring and summer past, and have found them to be the best contrivance for keeping the feet dry and comfortable, that I have ever used, and for any one having corns or tender feet, the best article over invented. CHARLES K. DARLING, Stationer.

Patent Elastic Ventilating Soles.—If you wish a comfortable article for your feet, a real luxury in cold weather, obtain a pair of the Patent Elastic Ventilating Inner Soles. Having used these soles the past winter, we can safely recommend them as tending not only to promote the comfort of the feet, and ease in walking, but also the equalization of the temperature of the feet, which renders them almost invaluable.—[Boston Traveler, Oct. 1867.

Price, per pair, **$1**. By mail, postage paid, **$1.25**. For sale by PATRICK KELLY, No. 327 Bush street, San Francisco. 3v1eff

New Mining Advertisements.

Cordillera Gold and Silver Mining Company.—Chihuahua, Mexico.

Notice.—The Annual Meeting of the stockholders, for the election of Trustees will take place on MONDAY AFTERNOON, March fifteenth, at 3 o'clock, at the office of the Company, No. 321 Washington street, San Francisco.

mar6 HENRY R. REED, Secretary.

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the nineteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
John A Johnson	283	1	$1 50
J S Adams	23	5	7 50
J S Adams	325	2	3 00
J S S Robinson	322	5	7 50
Mary C Bridges	360	12½	18 75
Catherine Jones	144	30	45 00
Catherine Jones	165	17	25 50
Catherine Jones	288	5	7 50
T B Clark	375	10	15 00
T B Clark	386	22½	33 75
E M Long	354	10	15 00
C Goodell	248	15	22 50
C Goodell	342	5	7 50
Wm Davidson	349	5	7 50
Wm Davidson	74	½	75
Ann Horan	176	7	10 50
Charles Fisk	150	5	7 50
W J Thomas	371	3	4 50
Dan of D Dickinson	294	10	15 00
Daniel H Dickinson	359	10	15 00
L E Wahlburg	257	5	7 50
Henry Jardine	188	5	7 50
Henry Jardine	304	3	4 50
Henry Jardine	330	12½	18 75
Henry Jardine	331	6	7 50
Henry Jardine	344	15	22 50
Hepburn James	16	5	7 50
Hepburn James	158	5	7 50
Hepburn James	247	10	15 00
A Wagner	207	5	7 50
Chas Saunders	224	5	7 50
Caroline A Nelson	293	2	3 00
George Brosie	229	10	15 00
James Wylett	231	5	7 50
H T Bliske	340	4½	6 40
Louis Blanding	237	28	42 00
John G Slavin	254	1	1 50
Henry Eno	301	3	4 50
Henry Eno	307	7½	11 25
E F Gibson	270	12	18 00
E F Gibson	271	12	18 00
E F Gibson	274	5	7 50
E F Gibson	302	3	4 50
Wm Jones	246	3	4 50
John Cairns	249	70	105 00
John Bolts	381	10	15 00
John Bolts	206	8	12 01
D C Riddle	258	5	7 50
Julius Zobel	259	5	7 50
H D Scott	260	5	7 50
J A McMahon	263	7	10 50
R K Love	275	5	7 50
R K Love	303	4	6 00
R K Love	329	12	18 00
R K Love	342	5	7 50
L Wechelhausen	281	4	6 00
Wm West	352	5	7 50
N Graff	357	½	75
R S Cutter	366	3½	5 25
R S Cutter	384	10	15 00
E Ekelund	362	3	4 50
E Ekelund	364	2	3 00
Philip Myers	370	2	3 00
M Long	335	22 7-16	33 63

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Wednesday, the seventeenth day of March, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. mar6

Mining Notices—Continued.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
F C McComb	50	12½	$25 00
F C McComb	91	2¾	54 25
Martin White	5	150	300 00
D W Hall	45	25	50 00
John R Mead	49	25	50 00
J H Pearson	64	2½	5 00
Wesley Henderson	67	100	200 00
Alfonus Ingle	71	5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on Monday, the eighth day of March, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. feb20

Glenwood Mill and Mining Company, Greenwood, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of February, 1869, an assessment of twenty-five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, Room 11, No. 431 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the second day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WILLIAM VALE, Secretary.

Office, 424 California street, San Francisco. feb27

Chloride Mountain Tunnel and Mining Company.—Location of Works: White Pine Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of February, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 615 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the tenth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JAMES RICE, Secretary.

Office, No. 615 Kearny street, San Francisco. feb13

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of January, 1869, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 426 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth (5th) day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirtieth (30th) day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N VAN BRUNT, Secretary.

Office 426 Montgomery street, San Francisco. jan30

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until the second day of April, 1869, and the sale thereof until Tuesday, the twenty-seventh day of April, 1869. By order of the Board of Trustees.

mar6 R. N. VAN BRUNT, Secretary.

North American Wood Preserving Company.

Location of Works: San Francisco, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fifteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John L Samuels	not issued	800	$800 00
George W Dent	1	400	400 00
Henry S Dent	not issued	200	200 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 430 Montgomery street, San Francisco, Cal., on Monday, the eighth day of March, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of said sale.

WM. B. LAKE, Secretary.

Office, 430 Montgomery street, San Francisco. feb20

Star Creek Mining Company.—Location: Star District, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of February, 1869, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary at San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-ninth day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HORACE MORRISON, Secretary.

Office, N. E. cor. Front and Jackson streets.

MECHANICAL AND ARCHITECTURAL
Drawing School
—FOR—
APPRENTICES.

MR. FREDERICK HELLERT,

An experienced Draughtsman and Teacher, has opened an Evening School at No. 414 CLAY STREET (same entrance as the Mining and Scientific Press Office), where he is giving thorough instructions in DRAWING to apprentices who are inclined to self-improvement. His terms are moderate and within reach of the humblest apprentice; and we are pleased to say that the enterprise is meeting with success.

1v18.tf

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

ELLERY'S PATENT
India Rubber Cement and Paint

—FOR—

TIN, IRON AND METALLIC ROOFS,

Iron, Brick and Wooden Buildings,

SHIPS, STEAMBOATS, STAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

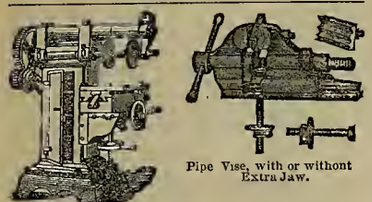
New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

GEO. T. BROMLEY, Agent,

Battery street, corner Jackson,

24v17-3m San Francisco.



Standard Milling Machine. Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,

OF BOSTON, MASS.

Extra jaw, and heavy Vises. Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16 1y G. H. NOTT, Pres.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

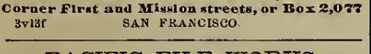
Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

PACIFIC FILE WORKS,

No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867

2v17-3m **T. G. DURNING & CO**

Removal.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools. Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

10v14qr

MACHINERY AGENCY.

W. O. M. BERRY & CO.,

Are the manufacturers' agents for Richardson, Merriam & Co's celebrated

Wood Working Machinery,

Embracing every description of Planers, Matchers and Mortisers, Moulding, Tenoning, Boring, Shaping, Vertical and Circular Re-sawing Machines; Scroll, Railway, Cut-off and Rip Saws, etc., etc. Agents for the Swam-cot Co's

Improved Portable Engines,

Warranted fully equal to any in the market; Davis & Furber's Woo en Machinery; Blake's Patent Steam Pumps; Kilburn's and Warren's Turbine Water Wheels etc, etc.

Orders for Machinery of any kind will receive prompt attention. Machines for special purposes built to order. Send for Illustrated Catalogue. W. O. M. BERRY & CO.,

8v18-3m 114 California st., San Francisco.

Notice to Miners,
Well-Borers and Water Companies,

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 1 Clay street, below Davis.

CALIFORNIA TOOL WORKS,
Blacksmith and Machine Shop,

143 Beale St., bet. Mission and Howard,

SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted.

21v17-qy **J. WEICHHART, Proprietor.**

PATENT
Boiler Scraper and Tube-Cleaner.

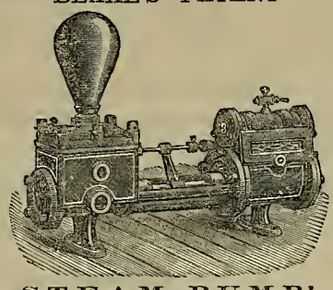
IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust looseued by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco. Manufacturers' Agents. 24v17tf

BLAKE'S PATENT



STEAM PUMP!

This Pump is warranted superior to any in the market, for Breweries, Sugar Houses, Tanneries, Boiler-Feeders, Steamboats, Mining and Fire purposes, etc. It throws a full stream of the thickest beer wash without clogging, and sugar syrup boiling hot without difficulty.

Warranted a positive Pump under ALL circumstances; it never stops nor gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

☞ If one fails to do the work for which it is sold, it may be returned and the money will be refunded. May be seen in operation at Risdon's, or Union Iron Works, or at

W. O. M. BERRY & CO'S,

Agents for Pacific States,

8v18-3m 114 California street, San Francisco.

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

21v16-3m W. McGRINDLE, Manage.

PATENT RIGHT

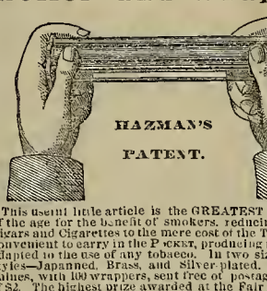
—FOR—

MANUFACTURING PROOF SPIRITS FOR SALE.

Attention is called to MARTIN'S NEW PATENT for a process for Distilling Alcohol (85 per cent. or higher), without rectifying, which is offered for sale on favorable terms. Samples may be seen, and further information obtained, at No. 423 Washington street.

26v17 **E. M. DEWEY.**

CIGAR AND CIGARETTE
Roller and Wrapper.



This useful little article is the GREATEST INVENTION of the age for the benefit of smokers, reducing the cost of Cigars and Cigarettes to the mere cost of the Tobacco. Very convenient to carry in the Pocket, producing no smell, and adapted to the use of any tobacco. In two sizes and three styles—Japanned, Brass, and Silver-plated. Sample machines, with 100 wrappers, sent free of postage on receipt of $2. The highest prize awarded at the Fair of the American Institute, September and October, 1867. For particulars, address H. C. Witt, 57 Cedar street, New York.

Beware of infringements. All genuine have my name printed on the bands.

E. M. DEWEY, Agent for Pacific States, 423 Washington street, San Francisco. 24v17-6m

ELECTROTYPE ENGRAVINGS, CUTS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State

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BARTLING & KIMBALL,
BOOKBINDERS,

Paper Rulers and Blank Book Manufacturers,

505 Clay street, (southwest cor. Sansome),

15v12-3m SAN FRANCISCO.

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(SUCCESSOR TO O. GORI)

MARBLE WORKS,

No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs

Etc., On hand and Manufactured to order.

☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

Palmer's Patent
ARTIFICIAL LEG,

Manufactured in Philadelphia, Penn.

JARVIS JEWETT, AGENT.

218 Montgomery Street, San Francisco. 10v8-1m

J. M. STOCKMAN,

Manufacturer of

PATTERNS AND MODELS,

(Over W. T. Garratt's Brass Foundry,

S. E. Corner of Mission and Fremont sts.,

6v14tf SAN FRANCISCO.

J. F. PAGES,
SEAL ENGRAVER,

AND LETTER CUTTER,

Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.

6v16

DESKS AND OFFICE FURNITURE.

JOHNSON & BEST,

Manufacturers of all kinds of

Desks and Office Furniture,

717 Market street, near Third.

Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

Novelty and Usefulness Combined.
Wilson's Prepared Solder

Dispenses with the Soldering Iron.

It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire

Agency for the Pacific Coast, Room No. 10, No. 423 Washington street, San Francisco. AGENTS WANTED.

Address P. O. box 17. 23v17tf

LEA & PERRINS'
CELEBRATED
WORCESTERSHIRE SAUCE

Declared by connoisseurs to be the only

GOOD SAUCE.

The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for

Lea & Perrins' Sauce,

and see that their names are upon the wrapper, labels, stopper, and bottle.

Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L and P. give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.

Caution against Fraud.

Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.

Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CROSS & CO., San Francisco. 3v18-1y

Our Patent Agency.

THE PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

[Written for the Mining and Scientific Press.

Idaho Correspondence.

YUBA.

EDITORS PRESS:—Mr. Matthew Graham, the original vendor of the mines owned by the Lucy Phillips Gold and Silver Mining Company, has lately struck the Atlanta lode on the 5th easterly extension—east of Montezuma Gulch, and about 1½ miles easterly from where the Monarch Company have been taking out the rich ore,—referred to in the PRESS a few weeks since,—the same streak or vein is found, thus showing that the Atlanta is a lode for at least 1½ miles. This will cause intervening owners to renew their exertions to develop this extraordinary lode, which, without any other ledge, is enough to build a town there; but the owners of the Varieties are also developing a lode very rich in gold. The Minerva Company have their tunnel in nearly 200 feet, and find a valuable vein, and other lodes referred to, all sufficient to satisfy any one but such as are not willing to be conviuced, that the prophecy heretofore made, that in three years Yuba will rival Owyhee, will ere long be a fixed fact.

Although a good many are leaving here for White Pine, yet they almost invariably say, they will go and see that place and return here after a time. Few, if any of those who "weathered" the first hard times of this country but have a firm faith in it that cannot be shaken by any White Pine or Grant districts.

BOISE VALLEY.

Farmers are plowing and sowing, and the feeling is that large crops must be put in the grouud; but little fear is felt of grasshoppers (the pest of two years past) as the eggs left here last year are, from examination, generally supposed to be barren..

SNOW AND PLACER MINING.

The snow that has fallen in the monntain districts is very hard, being well packed, and the recent heavy storms have so far added to the earlier well-packed snow, that the miners are looking forward to a very favorable season for placer mining, and those of Boise Basin are therefore in correspondingly good spirits.

The Granite Bar claims, on Boise River, ten miles above this city, will be in operation in a few days, and we shall soon learn if Ada is to come into the circle of placer mining counties.

VELOCIPEDES.

Our enterprising blacksmiths, Maupin and Carlton, have made two velocipedes, the first with two, and the second one with three wheels, but few, if any here, understand the former. They can not be made at less than from $60 to $100 each, in gold.

TRUTHS ABOUT THE TRADE OF THE INTERIOR.

Whilst the Californians are striving for the trade of the interior, let them hear a few wholsome truths. Before July, merchandize can be brought here from Chicago, or even New York, for about $53.75 per ton weight, in very little more time than from San Francisco. Our merchants can buy cheaper East, of everything, except East Indian and China produce, and can get a reasonable time on the goods. San Francisco time has always been sixty, and never over ninety days, without interest, and after that time, as high rates as the law would allow, and the Ocean and River Steam monopolies have made freights come to be pretty near—as our Teutonic friend at Colville, W. T., said, (in 1859) when, in demanding twenty five cents for a needle, the purchaser (a French Canadian) inquired: "Why, what makes a needle so dear?" "It is not the firsht cosht," replied the Teuton, "dat is noting, it is the cash monish for the freights—dat ish h—ll."

INDIAN DEPARTMENT CONTRACTS.

To-day, some contracts for the Indian Department were let, amongst them, 860,000 as freight from here to Fort Hall, about 250 miles, at $97.80 per ton—in Legal Tender Notes—to Mr. Hardy, and as he will load back either with the Oneida salt, or else go to the R. R. for a load, it will pay him well.

WINTER ROADS AND INTERIOR COMMUNICATION.

The roads are all good east of us, whilst westward are the Sierras on the California route, and the Blue Mountains on the Co-

lumbia River route, but the latter have been open all winter, (for six winters past) with one short exception only, whilst the Sierras get blocked, even in spite of snow sheds, etc. If California wants to keep the trade of the interior, they must offer far greater inducements to the merchants of Washington, Idaho, and Montana, than they have ever yet done. "A word in time to the wise." PEGASUS.

Boise City, I. T., Feb. 23d, 1869.

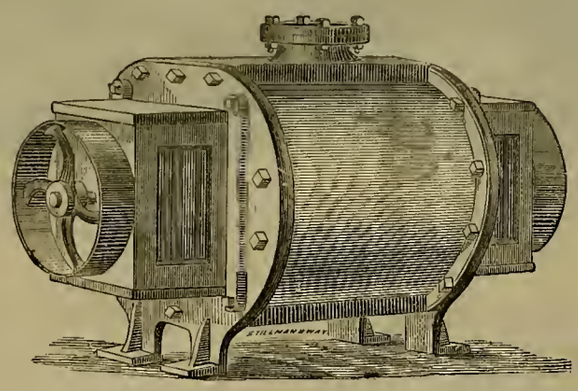
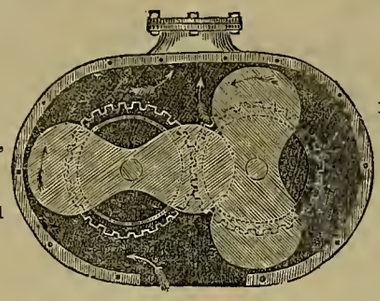
HOW WHITE PINE INCORPORATIONS ARE FORMED.—Many of our readers, perhaps, have wondered how and by what means the public were so frequently and thoroughly "bilked," to use a familiar term, into patronizing "wild-cat" schemes during every mining excitement. "Being once bit the bitten turns upon the biter," is an old saying, which in this case at least seems to fail; but like the swine spoken of in holy writ he returns to his wallow to be again sacrificed by the speculator. The Treasure City correspondent of the Austin *Reveille* gives us a slight insight into the *modus operandi* as follows:

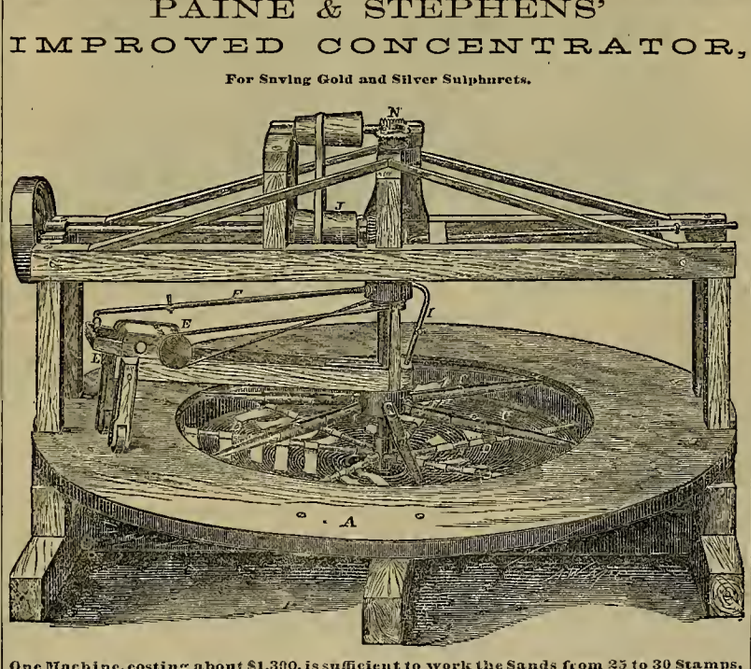
We are informed that the Knox Tunnel Co. has been incorporated in San Francisco with a capital of not less than one million. This tunnel was located about ten days ago on the east side of the hill, and, so far, two days' work has been done on it. In fact the parties locating have selected a place where a tunnel can be run—then incorporated. It is a fact within my knowledge, that the notice of location of this tunnel was not recorded until yesterday, and that, after the parties heard that the same was incorporated. The speed of this claim, when compared with a land office business, would be like running a locomotive against a jackass. No doubt they will be taking out chloride next week, although the tunnel will have to be run 1,000 feet to strike it. This tunnel scheme is almost as good a joke as the location of the Slim Jim claim, and that is too good to be lost. We give it as it occurred.

The Slim Jim ledge, so called, is somewhere between this and the Eberhaadt and on the side of the hill. About one month ago a party of capitalists were coming up the hill; before them they noticed a man with a crooked stick in his hands walking back and forth like a soldier on his beat. Coming up to him they inquired what he was doing? He informed them with the utmost confidence that he had found the "old he" ledge. Then he twisted himself into a thousand shapes, walked back and forth, and showed them that when he came to a certain place, his rod would turn in his hands, thus indicating beyond all doubt that he had found the "old he one." Some of the others tried it, but owing to the want of faith or something else, it would not work in their hands. He said he was about to make the location. They told him they wanted a chance in it. After considerable negotiations, on learning who they were, he consented. They at once paid four bits apiece to have it recorded. When they got home, they commenced to form plans to get their money back. Their fertile brains invented the following plan: when a capitalist comes they call his attention to the claim, and inform him that so many feet can be had of a certain party. He bites; a few feet are sold for a small sum, as an accommodation. On this plan it has nearly all changed hands, and now some of it is held by some of the wealthiest men in the State of California, who, I suppose, think they have a big thing.

CALIFORNIA
BUSINESS UNIVERSITY,
204 Montgomery Street.
Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
17v17-qy14p B. P. HEALD, San Francisco.

DEWEY & CO.,
American and Foreign Patent Agents,
Messrs. DEWEY & Co., Publishers of the MINING AND SCIENTIFIC PRESS, the only well-established successful Patent Agents west of the Rocky Mountains, give Inventors and Patentees honest and reliable advice, free. The Patent Business in all its leading branches is transacted by us intelligently and skillfully, in an able and straightforward manner. Patents secured in EVERY COUNTRY IN THE WORLD where Patent Laws exist. Being long established, and transacting a large business, our appointments are now thorough throughout, safe, prompt and responsible. Consultations by letter or otherwise, are kept inviolately secret. Circulars containing INFORMATION FOR INVENTORS sent free. Valuable inventions, patented through our agency, will be illustrated or explained through the columns of the *Mining and Scientific Press*, a journal most widely circulated throughout the Pacific Coast, among mechanics, miners, manufacturers, and commercial men.
Inventors on the Pacific Coast, located at great distance from the Patent Office, of all others, should be careful to avoid inexperienced, dishonest, or otherwise unreliable and irresponsible agents.
DEWEY & CO.,
Patent Agents, Publishers and Printers, 414 Clay street below Sansome, San Francisco.
A. T. DEWEY. W. H. EWER.

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.
Awarded the First Premium at the Paris Exposition.

ADAPTED FOR Smelting, Foundry, Mining and Steamships.

REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.
One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.
CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.
For circulars and further information, address
KEEP & BARGION,
4v16 3m Globe Iron Works, Stockton, Cal.

PAINE & STEPHENS'
IMPROVED CONCENTRATOR,
For Saving Gold and Silver Sulphurets.

One Machine, costing about $1,300, is sufficient to work the Sands from 25 to 30 Stamps,
Less power being required than for any other Machine. The attention of quartz millmen throughout the State is directed to the subjoined certificates, and if they desire they can visit the Amador Mining Co's mill, near Sutter Creek, the Eureka Co's mill at Grass Valley, or the Banner Co's mill near Nevada, and see for themselves.
CERTIFICATES:
GRASS VALLEY, Jan. 4th, 1869.—This is to certify, that we have used the Paine, Stephens & Harry Concentrators for over twelve months. They have given us entire satisfaction, and are the best we ever used. WILLIAM WATT, Supt. Eureka Mine.
This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.
WM. L. TISDALE, Supt. Star Spangled Banner Mine.
NEVADA CITY, Oct. 26, 1868.
Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE, at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.
13v16eow

Metallurgy.
MOSHEIMER'S
PIONEER MINING SCHOOL,
—AND—
METALLURGIC WORKS.
Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of
Chemistry, Assaying and Metallurgy,
That I am prepared to teach all the above branches in less time than in any European School.
I also undertake to assay and work any kind of ore, or mineral substances.
For terms, apply to JOS. MOSHEIMER,
Practical Chemist and Metallurgist.
Office, 328 Montgomery street; Metallurgic Works, 2905 Powell street, San Francisco 6v18-6m

LEOPOLD KUH,
Assayer and Metallurgical Chemist,
(Formerly of the U. S. B. Mint, S. F.)
Office, No. 611 Commercial Street, opposite the Mint, San Francisco.
BULLION MELTED AND ASSAYED.
The correctness of which is guaranteed in every respect. All kinds of Ore and Mineral tested, assayed and analyzed in the most satisfactory manner.
Refers by permission to W. C. Ralston, Cashier Bank of California; Messrs Ploche & Bayerque, Wm. M. Lent, John D. Fry, E. Cahill & Co., A. K. Grim, President Pacific Union Express Co.; John M. Eckfeldt, M. and R. U. S. B. Mint; Hale & Norcross S. M. Co., and the principal mining companies on the Comstock Lode. 25v17-tf

JOHN TAYLOR & CO.
IMPORTERS,
AND DEALERS IN
ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,
Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.
WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior
ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.
A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.
San Francisco March 6, 1865 11v10-tf

PROF. HENRY WURTZ,
Formerly Chemical Examiner in the U. S. Patent Office may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 25 and 26, New York. Always in from 12 to 3.30. ☞Written communications preferred.

Important to Gold and Silver Miners and Companies.
PROFESSOR WURTZ,
Who is the Inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of
SODIUM AMALGAM.
All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

R. TAYLOR. WM. B. TAYLOR.
ROBERT TAYLOR & CO.,
METALLURGISTS.
SMELTING WORKS,
Eleventh street, between Folsom and Howard.
GALVANIZING.
Also, Anti-Friction, Alloys for Journals, Type and Stamping Metals, Tinners and Plumbers' Solder, Etc.
☞The best price given for the most rebellious or refractory ores. Ores and minerals assayed and analyzed.
4v18 3m

G. W. STRONG,
ASSAYER AND WORKER OF ORES,
No. 10 Stevenson street, near First, San Francisco.
Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms.
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HAT MANUFACTURER
And dealer in
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AT WHOLESALE AND RETAIL.
635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of D and second streets.....Marysville.
72 Front street.....Portland, Oregon.
Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

New Incorporations.

Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

WHITE PINE REAL ESTATE, ROAD AND WATER CO.—White Pine, Nev., March 1st. Capital Stock, $1,000,000; 10,000 shares, $100 each. Trustees: J. M. McDonald, W. F. O'Neal, M. S. McDonald, Jno. Skae and David Fay.

OBISPO MINING CO.—White Pine, Nev., March 1st. Capital stock, $720,000; 7,200 shares, $100 each. Trustees, Thomas H. Holt, R. E. Brewster, Henry Critcher, Robert Apple and Samuel Heyneman.

SILVER COMET MINING AND TUNNELING CO.—White Pine, Nev., March 2d. Capital stock, $1,600,000; 16,000 shares, $100 each. Trustees: A. M. Heslep, Ira G. Hoitt, Wm. H. Taber and R. R. Rollins.

GEORGIA S. M. CO.—White Pine, Nev., March 3d. Capital stock, $1,440,000; 14,400 shares, $100 each. Trustees: Thomas Young, Joseph S. Paxson, E. Barry, W. Hollis, J. Bell, N. K. Masten and J. Palache.

TIDAL WAVE MINING CO.—White Pine, Nev., March 3d. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees, A. K. Grim, A. P. K. Harmon, C. S. Hobbs, W. E. Dean and J. B. Low.

BLACK HAWK S. M. CO.—White Pine, Nev. Capital stock, $500,000; 5,000 shares, $100 each. Trustees: A. S. Gould, H. F. Williams, W. H. Bryan, J. Tyson, J. W. McKenzie and Henry Epsiem.

GARDEN TRACT HOMESTEAD ASSOCIATION.—San Francisco, March 3d. Capital stock, $58,000; 168 shares, $350 each. Trustees: Jas. Graves, A. S. Gould, H. F. Williams, W. G. Doolittle, Chas. D. Wheat, F. B. Wilde and S. Littlefield.

ELECTION OF OFFICERS.—GOLDEN CHARIOT MINING CO. San Francisco, March 1st. President, J. D. Fry; Vice-President, Chas. E. McLane; Treasurer, Wells, Fargo & Co.; Superintendent, P. S. Buckmaster; Secretary, Joseph L. King; Trustees: J. D. Fry, G. W. Beaver, Thos. Cole, Jr., W. Ashburner, M. J. McDonald, Hill Beachy and Chas. E. McLane.

CALIFORNIA REAL ESTATE ASSOCIATION. San Francisco, March 3d. A. J. Shrader, President; H. Koster, Vice-President; T. P. Riordan, Treasurer; Wm. Monahan, Secretary. Directors: A. J. Shrader, H. Koster, Wm. Monahan, T. P. Riordan, David Landers, Michael Meagher, Owen McMahon, Denis O'Leary and Herman Zadig.

VIRGINIA S. M. CO.—White Pine, Nev. Trustees: Wm. H. Sharp, J. M. Byrne, L. F. Loveland, A. A. Whitney and Mark McDonald. President, Wm. H. Sharp; Secretary, John Ferrie; Treasurer, L. F. Loveland.

DANEY MINING CO. — San Francisco, March 4th. Trustees: H. F. Cutter, A. Cameron, Jas. Patterson, J. D. Fry and J. C. Wade.

DEPTH AND ORIGIN OF DONNER LAKE. Mr. Cadwallader, of the Central Pacific Railroad, has sounded Donner Lake to the depth of 1,600 feet without finding bottom. It is surmised that the lake occupies the site of a crater of an extinct volcano; but as the entire country is granite, this cannot have been a crater of the ordinary volcanic kind. Lake basins in granite do not take the circular shape of those owing their origin to volcanic craters. Though granite is usually considered to be eruptive rock, its elevation into mountains and the manner of its eruption in the remotest ages, are very imperfectly understood. Tahoe and Donner were formed by similar causes.

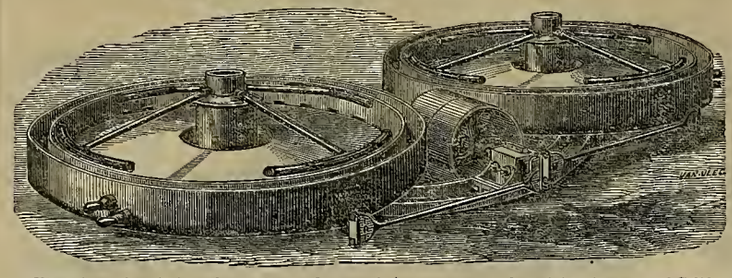
THE MINERS' CONFLICT with the Central Pacific Railroad Company will be argued in the Supreme Court next term, by Messrs. McConnell, Hale and Hamilton, on behalf of the miners. All the mining camps are making contributions to sustain their cause against the Railroad Company.

MARCH OVERLAND MONTHLY.—The solid articles this month are, "Our Manufacturing Era;" "How our Chinamen are Employed;" "Art Possibilities;" "Foot-prints of Early California Discoveries." "Up in the Pogonip" is replete with character.

ANOTHER Water Co., at Victoria, (V. I.,) to be "under the sole control of the Government," is proposed, with a view to bringing water from Elk Lake, five miles distant.

HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868

MR. MORGAN HUNGERFORD—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lamhard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

In future these Pans will be manufactured by GODDARD & Co., at the Pacific Iron Works, San Francisco, which is a guarantee that they will be built in the most substantial manner.

These Pans may be seen at the Pacific Iron Works, First street, near Howard, San Francisco.

Address,

GODDARD & CO., San Francisco.

Or M. HUNGERFORD, at the Pacific Iron Works.

18v17cow

Pacific Protective Association of California.

INCORPORATED OCTOBER, 1868.

PROSPECTUS.

OBJECT.—The object of this Association is to secure a cash payment, within sixty days after the death of a subscriber, to his or her heirs or assigns of as many dollars as there are individuals of the class to which said deceased subscriber belonged.

MEMBERSHIP.—The subscription fees are Ten Dollars at joining, and One Dollar on the death of each subscriber. The One Dollar from each subscriber is paid to the heirs or assigns of the deceased.

THE FUNDS.—The By-Laws of the association require that a portion of the money received as subscription fees shall be a Sinking Fund to meet assessments falling due by the delinquencies of subscribers. The balance of the money received to be used for the payment of the expenses incurred by the Association.

MEMBERS.—A subscriber failing to pay his or her assessment of one dollar within Thirty days from receipt of notice to forfeits his or her Certificate, and all claims upon the Association, unless good cause is shown for further delay. A subscriber can forward money in advance, which amount will be credited on future assessments. The subscribers are divided into classes including males and females. Each class is limited to 5,000 subscribers. As classes are filled, new ones will be formed. No person is so poor that he cannot pay Ten Dollars at joining and One Dollar occasionally, thus securing $5,000 to his or her heirs or assigns.

ADVANTAGES.—The advantages of this Association are, that no *money panic* can affect it. Its benefits are easily obtainable by all, and every subscriber added to the Association enhances the interest and protection of all; the amount paid being so small, and only at long intervals, that any person can secure for his family a competency upon his death.

CLASSES.—In Class A, all persons between the ages of 15 and 40 years; in Class B, all persons between the ages of 40 and 60 years.

Any one that has not stated his or her age correctly, will forfeit all money paid and his or her Certificate.

One class cannot be assessed if one of another class dies. Classes have no connection with each other.

HOW TO BECOME A MEMBER.—A person desirous of becoming a subscriber must fill out an application, and forward with it Ten Dollars by Check, Draft, or by Express, in gold or silver coin. Persons can pay agents, when regularly appointed and authorized to receive money. Each subscriber should interest himself in obtaining new members, by so doing all are benefited.

BOARD OF DIRECTORS.—Benjamin H. Freeman, George H. Russell, Samuel A. Raymond, James A. Pritchard, W. Le Roy.

OFFICERS.—Benjamin H. Freeman, President; George H. Russell, Vice President; John H. Warren, Secretary; James A. Pritchard, Treasurer.

REFERENCES.—Hon. Henry Dutton, President of Farmers' and Mechanics' Bank; Hon. Samuel Cowles, late Judge County Court, San Francisco; Hon. A. J. Gunnison, Attorney at Law, San Francisco; H. J. Booth, Esq., Union Iron Works, San Francisco; Henry F. Williams, Esq., Real Estate, San Francisco; John O. Hanscom, Esq., Etna Iron Works, San Francisco; John H. O'Brien, Esq., of O'Brien, Bush & Co., San Francisco; Hon. J. P. Jones, Gold Hill, Nevada.

All communications should be addressed to the Secretary of the

PACIFIC PROTECTIVE ASSOCIATION,

S. E. COR. OF MONTGOMERY AND SACRAMENTO STREETS, (Over Donohoe & Kelly's Bank,) SAN FRANCISCO.

[10v18 3mos.]

Sheffield Scientific School

Of Yale College, New Haven, Conn.

This department of Yale College, instituted in 1840, and endowed with the National Land Grant in 1865, furnishes advanced instruction in the various branches of Mathematical, Physical, and Natural Science.

The School is under the direction of the President of the College, a Board of thirteen Professors in different specialties, and six assistant instructors.

Regular courses of study, leading to the degree of Bachelor of Philosophy, conferred by Yale College, are arranged as follows: 1—CHEMISTRY AND MINERALOGY. 2—CIVIL ENGINEERING. 3—MECHANICAL ENGINEERING. 4—MINING ENGINEERING AND METALLURGY. 5—AGRICULTURE. 6—NATURAL HISTORY AND GEOLOGY, and 7—SELECT COURSE.

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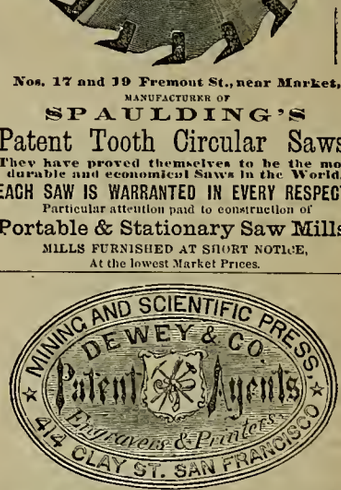

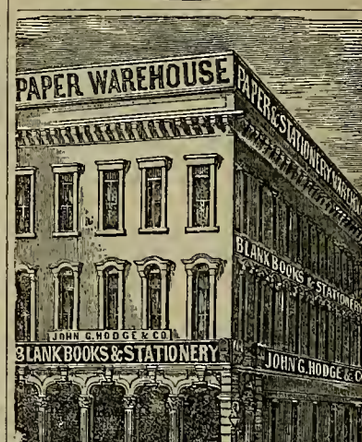
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SAN FRANCISCO, SATURDAY, MARCH 13, 1869.

VOLUME XVIII. Number 11.

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Evans' Corrugated Riffle.

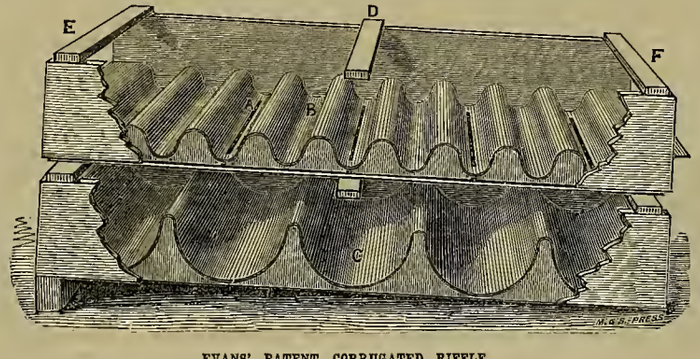
In our issue of October 17th, 1868, notice was made of the invention and patenting of Mr. George R. Evans' Corrugated Riffle, of which we herewith present an engraving. The object of this very simple and practical device is to save the mercury that leaves the battery, or other amalgamation process, in the same manner as, and in place of blankets, whose costly and perishable character render them of limited application. As the corrugated riffle of Mr. Evans has been applied in a number of Washoe and California mills, and as the verdict has been invariably favorable, so far as we are aware, a more definite representation of it will be of interest to our readers.

The pulp from the stamp mill flows into the riffle at E, and out at F, upon another section similar to the one represented in the engraving; as many of these sections being put together as may be thought best suited to the locality or to the ore. It will be seen that the riffle is a simple trough, the front side of which is left out in the engraving, having a corrugated bottom, and a slit, as at A, in every alternate corrugation, the object of which is to let the mercury and concentrated particles of ore through into the reservoirs below. The latter are little more than reservoirs, as they stand full of water when the apparatus is in operation, retaining all the heavier particles, while the lighter ones are overflown or carried from one into the other, and off. The corrugation semi-circles in the upper trough are 3 inches in diameter; and the dimensions for a trough suitable for a 20-stamp mill are 2 feet in width and about 30 feet in length. If such a contrivance will, as is claimed, perform the same work as three times that length of blankets, or even the same length, it is evident that the latter must speedily be superseded.

The effect of this semi-circular corrugation is that the particles of ore are so tossed, rolled and ground against each other, as to be alternately under the sway of the current, and thrown off successively into a series of eddies. An idea of the manner in which even light particles, like splinters of wood, are revolved in these frothing eddies, can be obtained only by witnessing the operation. After returning into the eddy five or six times, depending upon the quantity of water let on, the splinter finally receives an impetus from the current which carries it over into the next corrugation, where the tossing and grinding are repeated. Any other shaped riffle than that of semi-circular corrugation, encounters the difficulty of caking, rendering useless the amalgamated copper surface, as well as much of the mechanical advantage of the riffles, by filling them up.

The following result of a practical test, as given by a correspondent of the *Herald*, we subjoin:

The Superintendent of the Rhode Island Mill, Virginia City, in experimenting with this improved concentrator, placed it at the end of the line of sluices attached to the mill, thus making it third in the chain of apparatus for saving the gold and silver, and obtained good results. This mill reduces about 60 tons of ore per day, in the working of which there is a loss of between 75 and 100 pounds of quicksilver. The sluices catch about ten per cent. of this loss from the pans, thus reducing the absolute loss to from 67½ to 40 pounds per day. The first two days' run was so astonishing in its results that he thought there must have been some unusual leak connected with the pans, and therefore at once made a thorough examination and clean-up, but found nothing wrong. He then made another run of twelve hours with this concentrator attached, setting them at an inclination of one inch to the foot. The result was three common water-buckets full of rich sulphurets saturated with globules of quicksilver, while at the bottom of each bucket was a pool of the bright metal. There were at least 25 pounds of quicksilver in these three buckets, which of course contained a quantity of amalgam.



EVANS' PATENT CORRUGATED RIFFLE.

Evans' riffle may be seen in operation at the Nevada, Ogden and Rhode Island mills, in the vicinity of Virginia City. It has been ordered for a number of California mills, and also for Lower California. In silver mills it is next in order to the settler, and does away with the necessity for an agitator. In gold mills it forms a very excellent apron,—an important part in such a mill. It will also serve as a concentrator for sulphurets, saving the very lightest sulphuret particles. On the score of durability it is superior to blankets, in lasting about five years, while blankets will decay and become useless in from three to six months. The owners of the patent are George R. Evans, the inventor, S. P. Taylor, John White and Charles Cousins. The agent is S. P. Taylor, 416 Clay street, San Francisco.

Tin Mining in California.

The San Jacinto Tin Mining Company, which was recently organized in this city for the purpose of mining for tin at the locality popularly known as the Temescal Tin mines, some fifty miles east of Los Angeles, have now some thirty men employed in raising ore and opening up the mine, preparatory to still more extensive operations. A very rich streak of ore has been developed, from which about thirteen tons have already been delivered in this city. One hundred sacks were received by the last steamer from Los Angeles. The ore, as fast as received, is being crushed, pulverized and concentrated at the Union Foundry. It is first broken up to nut size in a rock-breaker, after which it is reduced to a very exceeding degree of fineness in one of Hunt's Improved Ball Crushers—a machine something similar to those in use for pulverizing quartz on the Mariposa Estate. After being thus pulverized the pulp will be concentrated by Hunter's concentrators.

The ore as delivered in this city averages from 12 to 15 per cent. of tin, and after being pulverized, is concentrated up to about 70 per cent. In this condition it will be taken to Mosheimer's Works, at the foot of Powell street, where a suitable furnace has been erected for smelting and refining the same. The present is merely an experimental test for ascertaining the value of the ore, and the thoroughness of the various manipulations through which it must pass to obtain metallic tin. About twenty tons of ore will be subjected to this test.

The principal work now being done at the mine is in the way of its development. Two shafts are being sunk, one to a depth of 100 feet, and the other 150 feet; these shafts will be connected with a drift 350 feet in length. From developments already made, the managers are confident that when the shafts and drift are completed, a body of about 125,000 cubic feet of 12 to 15 per cent. ore will be proven, which will yield about 12,000 tons. Should these anticipations be realized, an extensive plant of works will be immediately erected at the mine, and tin mining will be inaugurated in earnest on the Pacific coast. We shall watch with much interest, the progress of this preliminary work, and report results as soon as reached.

Since the above was written we learn that later intelligence has been received from the mine, stating that the vein has already been reached in the drift now in progress from the bottom of the 100-foot shaft. This development renders the continuance of rich ore in depth an ascertained fact.

Work at the Foundries.

Not as much work, in the way of mining machinery, is in hand at the foundries at present, as might be expected from the renewed interest that is generally taken in mining since the development of so many additional rich mines at White Pine. A single 20-stamp quartz mill at the Union Foundry, for the Stanford Brothers at White Pine, is the only order of the kind that we have heard of; though a number of other mills are on the tapis. A great number of old Washoe mills are being transported eastward.

At the the FULTON FOUNDRY there is in hand a sawmill for Crossman & Co., Red Bluffs; a flouring mill for Coghill, Harrison Fogus, or the "Reno Mill Co." at Reno, which is to have two run of stone; a steam engine, 12x24, for a sawmill at Fisk's mill, Sonoma Co., ordered by F. Helmke.

At the RISDON IRON WORKS, there is doing a great deal of steamship work, besides a propeller double engine for the Dry Dock Co., 22-inch cylinder and two feet stroke; another of the same size and kind for a tug for Capt. Kentfield; two boilers for the steamer Brisk, belonging to A. A. Cohen, for Oakland Ferry Co.; a steamer engine, 24x24, for another party; two engines, 22x5, for a side-wheel steamer for Capt. Tyler; new shafts for the steamer New World, of the valley railroad route; and repairs are being made on the steamers Senator, Antelope, China, Idaho, Princess, Constitution, the propeller California, etc. Mr. Moore, of the Risdon Works, has gone to England for the purpose of acquiring all that is new in the iron working art, and the company, having purchased thirty acres of ground on the Potrero, near the Rolling Mill, are about to erect new works of a capacity and with facilities that will be suited to the times. Mr. Cummings is the acting superintendent, in the place of Mr. Moore.

ARIZONA.—Charles Gentile, the photographer, has issued the prospectus of an illustrated work on Arizona; its Scenery, Climate, Geology, Natural Productions, Inhabitants, Present Condition, and Prospects in the Future.

THE Union Pacific Railroad was completed on the 20th to within seven miles of the mouth of Weber Cañon, which is virtually to Salt Lake.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

Written for the Mining and Scientific Press

Permanent Mining in the Salmon River Country.

Idaho Co., I. T., Jan. 25th, 1869.

Editors Press:—Having been a constant reader of the Press during a year past, I infer from the character of its columns that you would not object to mining items, even from the far-off North Idaho. The Press has occasionally during the year contained clippings from the Lewiston *Journal*, and from the Portland dailies, pertaining to our mines, but not enough has been anywhere published to furnish you with any clear, full and distinct conception of our district.

GEOGRAPHICAL.

Our district comprises a basin in the Salmon River range of mountains, and is bounded north by the main Salmon river, east by what is known as South Salmon, and south by a western tributary of South Salmon, which takes its rise within about four miles of the main Salmon, so that the waters of said river flow nearly around our district. Our area is about equal to that of a circle whose diameter is twenty miles. Near the center of this area are located what have long been known as the

WARRENS PLACER MINES.

These were discovered in the summer of 1862, the year of the great stampede to Florence, or what was then termed the Salmon River mines. The Warrens placers have been worked with much success every year since their discovery, between the months of April and November. The quality of the gold produced has even indicated the presence of silver, ranging in value from $10 to $14 per ounce. The hills and gulches within the basin are densely covered with a small growth of mountain pine, which grows straight and tall, and comparatively free from limbs till near the top, so that these forests can easily be penetrated by prospectors.

VEIN MINING.

Not till the summer of 1866, was there any stir in this district worthy of note, in relation to quartz, although the hills and gulches around the placers abound in rich deposits of drift gold and silver-bearing quartz. In June of that year the quartz attracted the attention of the miners so much that not less than 100 apparently distinct veins of gold and silver-bearing quartz were discovered, and upwards of 5,000 claims were located and recorded upon them. In the summer and fall of 1867, two mills were brought into the district. One of them was set in motion in November of that year. The other commenced operations in January 1868. These mills have reduced ores from about fifteen of these veins, mostly as tests of the veins, for free gold, more than half of which have disclosed average ore yielding upwards of $30 per ton, and some over $175 per ton in gold. Of the other veins discovered and yet unprospected by the mills, it is impossible to determine the value. Fire assays of samples from a large number of them warrant the hope that they will prove equally rich. Fire assays of samples from the silver veins show from $50 to $7,000 to the ton, but as yet the mills here have made but little effort to work for silver. In fact, they have not the appliances for working silver ore with success, and furthermore we have not among our miners men practically skilled in working for silver, save a few who know something of the Patio process which cannot be successfully adapted in this rigid climate.

DEVELOPMENTS.

Our veins, so far as developed, show a width of from six inches to three feet of quartz; but the deepest shaft sunk upon any vein in the district is seventy-five feet, and the amount of quartz extracted from all the veins will not exceed one thousand tons. No vein has been exhausted in sinking. On the other hand, most of them have increased in size, with an increase of depth of shaft. Some of them exhibit numerous breaks within the first forty or fifty feet in depth; in fact, the whole crust of the earth in this vicinity to the depth of fifty or sixty feet evinces the result of violent changes and commotions of former ages. What may be disclosed at the depth of a few hundred feet, no one can tell at present. Most of the veins are so situated that they cannot be drained to the depth of from one hundred to five hundred feet by drifts. The whole country around the center of this basin is a succession of hills and gulches of gentle grade, rising one above the other as we recede, till we reach the crest of the range of mountains, which border immediately on the Salmon rivers.

DEMAND FOR EXPERIENCED MEN.

Our district as described in general terms, may awaken some interest in your readers, though with the astonishing richness of the White Pine district and its surroundings, as portrayed from time to time in the Press and other journals, we can hardly expect to excite the multitude, who are eager to get rich quick. But we do want some experienced quartz miners here, and some first-class quartz millmen; and we want capital to develop our mines, and we think that when capital is liberally and judiciously invested in the quartz of this district, and under the contract of skillful quartz operators, it will give as steady and constant interest as the White Pine investments, though the percentage may not be so large in some cases.

DISTANCES AND COMMUNICATIONS.

We are distant from Boise City 140 miles, with a good natural wagon road the entire distance, save about twenty-five miles, and we expect that when that branch of the Pacific Railroad, of which the Press makes mention, extends to Ruby City, we will be a near neighbor to the denizens of your city of San Francisco. The twenty-five miles of road which requires to be built, would be through a natural gap in the mountains to the head of the Payette lakes.

Will not some San Franciscan, who has capital to invest, and who has the leisure for the trip, take a stroll up this way next summer, and see that we do not overrate things here? We look to the people of your State, and to the capitalists of your city, for taking ventures in all extensive mining enterprises, for their experience must have made them more sagacious than others, and less liable to fail. A. L.

The Leaching Process.

APPLIED TO SILVER ORES AT THE RISING STAR MILL.

Editors Press:—Some representations in regard to the results of leaching silver ores at the Rising Star mine, brought into circulation by some friends of mine in Virginia (Nev.), induce me to request you to insert the following few lines of rectification. The gentlemen referred to undertake to explain a process the nature of which they are not able to comprehend, simple as it is. It is objected that "all the silver is leached out together with the base metals, and lost."

If such a result could be possible, any millman of limited experience would perceive instantly (provided there is no special purpose for misrepresentation) that the difficult problem of treating refractory silver ores is solved at once. But as it is, the chloride of silver still refuses to be dissolved in hot water, even to oblige those gentlemen.

In the Mining and Scientific Press of Jan. 2d, it was explained how a small part of the chloride of silver can be dissolved, and carried out with the leaching water. The quantity varies from ½ to 1½ per cent., depending on the quantity of salt, and intensity of heat applied in roasting. This silver, although in a place where it is not wanted, is by no means lost; it precipitates by itself, and the only trouble is in taking it out. Being in the state of chloride, there is no difficulty in reducing it. But without taking this stuff into consideration, the ore of the Rising Star mine is now worked up to 91 per cent of the fire assay, yielding a metal of over .860 fineness. This result, compared with the previous extraction of iron without any loss of silver in the leaching water, is as favorable as could ever be expected; and the Rising Star mill has, by the aid of the present leaching process, become, now, a well paying institution. G. Kustel.

[Written for the Mining and Scientific Press.]

From Mount Diablo to Vallejo.

Editors Press:—In my last I gave you a detailed account of the coal mines, and what may be seen in them. The distance to the nearest point on the San Joaquin is only six miles, but the mines are situated so high up in exceedingly rugged cañons that, without the two railroads mentioned, they would be comparatively worthless to-day. A nearly level plain extends from the river back to the foothills,—within a mile of the Black Diamond Company's tunnels at Nortonville,—the same entering on the northeast of the mountain and then following the veins to the west.

From the verge of the plain up into the mines, a distance of a mile and a half, the Pittsburg and Somerville railroad has the remarkable gradient of 275 feet to the mile, cuts through one tunnel of 300 feet, and crosses eight large trestle bridges, the largest being 304 feet long and 60 feet high. As the coal cars would run down the grade of themselves, the only point to be considered was the construction of an engine capable of pulling them up again when empty.

This problem was solved satisfactorily by (Mr. I. M. Scott,) the mechanical engineer, of San Francisco. He devised and constructed an engine weighing 17 tons, and supplied the same with three pairs of thirty-six inch driving wheels, and powerful brakes. So successful was the result that in the construction of the Black Diamond company's railroad from New York landing to Nortonville, a grade of 305 feet to the mile was ventured upon; and similar engines are now running upon it with success. The cylinder of these engines is thirty-six inches, diameter 14x18. The Pittsburg and Somerville railroad is 5¾ miles in length; the Black Diamond or New York railroad is 6½ miles in length.

MOUNT DIABLO QUICKSILVER MINES,

about 4½ miles from Clayton in the northeasterly flank of Mount Diablo itself there is a quicksilver mine from which $8,000 was extracted, the product of a single pocket, in 1866. Further explorations have not developed any extensive paying deposits; and the company at work is scarcely able, from want of capital, to go ahead and prospect Diablo's bowels as the project merits. They hold on to the belief, however, that there is a good chance in the neighborhood to make a fortune. The Superintendent is Capt. Harding, of Clayton; the Secretary, I. Blum, of Martinez. About thirty persons are interested in the mine, mainly residing in different parts of Contra Costa Co. As an evidence that there is something in the mine worth owning, it may be mentioned that the title to it has been under litigation; but that matter has been settled by Harding's finally buying off the adverse claimats.

A tunnel is at present being run into the mountain 200 feet, perpendicular, below the old tunnel. The former tunnel was in 250 feet; the present one is in 200 feet; and at 250 or 300 feet they expect to strike the continuation of the pocket above mentioned.

Mount Diablo is at present covered with snow.

THE GOLDEN STATE POTTERY,

at Antioch, deserves attention in passing. Lohree & Co. are making all kinds of stone ware, from clay obtained at Marsh's, fourteen miles distant. Three kilns are in constant operation.

PACHECO,

on Mount Diablo's bucolic plains, is a thriving town, business of all kinds appearing brisk. I learned that H. N. Dalton, the agricultural implement manufacturer at Pacheco, who is at present putting up a very large agricultural implement manufactory, has been obliged, by the increase of work on his hands, to enlarge his establishment three times. His new works are seventy-five by about fifty feet in dimensions, and two stories in hight. He makes every kind of machinery that is required by farmers, and is building also a foundry in connection with his manufactory.

The farmers on the shady side of Mount Diablo are very busily engaged in putting in their crops.

BENICIA,

appears to be at a stand still at present, but faith is entertained by the citizens that a large town will grow up, as mills and manufacturing establishments are going up here, and large ships can come to harbor conveniently.

AT VALLEJO,

the frame work of the first elevator on the coast is going up in great haste; it is a very large building, situated at South Vallejo. R. W. Mackie is the chief builder, being a Chicagoan, who was specially sent for on account of his extensive experience in the building of elevators.

On Mare Island there are employed, in the government shops, about 750 men, and there is made now, in the way of machinery, everything that is required in connection with the building, repairing, and alteration of iron ships, and monitors, as well as of wooden ships. They make their own gas here of whale oil, which drops into a vaporizing retort from pipes connected with a reservoir in another apartment.

Vallejo, March 1st, 1869. *

[Written for the Mining and Scientific Press.

The Blue Lead Opened at Dutch Flat.

Editors Press:—The King Bros.' Mill and Mining Company, of which I spoke in my last letter, are now fairly into the lead, and have a sight in their drift that makes the eyes of old Californians sparkle, as in the days of '49 (as I predicted, you will recollect, "when they were fairly into the channel.")

They came up with a specimen of their cement; it is blue and yellow. The blue is cement, and the yellow is gold. One piece the size of a man's head, contains about $60, and on the edge of this same piece they scraped up over two ounces of gold.

Having reported these magnificent strikes, I will now give you the probable extent of this "Blue Lead" deposit at this place. The ridge is about one and a half miles long; that is about the distance from the King Bros.' claims to the Buckeye; and it has been drifted crosswise in both ends to the distance of seven hundred feet.

A large portion of the intermediate claims are now owned by Mr. James Teaff, who some time ago sunk a shaft in about the center of the ridge, and the same rich deposit, (that is now being worked at the two mills already in operation) is gone through. Numbers here have been down this shaft, Hon. E. L. Bradley, Mr. James Gould, Mr. A. Towle, and others, who, I think, all report the same. There is gold visible in the drift to the depth of thirty feet from the bedrock. It is the general opinion that this lead may be some seventeen hundred feet wide at this part of the channel, as it seems to have been the receptacle of several old channels making a junction. We are now hopeful of better times than we have ever had here, because the mills have proved a magnificent success, and the King mill will clean up a larger amount of gold than was ever had from the same amount of labor in Placer County, when they complete the present run.

Mr. Teaff informs me that at present he is unable to employ the necessay means and machinery to work his ground from his shaft, consequently, but a small portion (comparatively) will be worked until he is assisted by capital, for which there is no better chance that I know of in the State. There is enough of this immensely rich deposit to run twenty 20-stamp mills for twenty-five years, and it will not be "worked out" then.

Since writing the above, I have been shown richer and larger pieces of cement, just taken from the King Bros.' claims. Two hundred dollars was obtained from a single pan of the crushed cement, and a number of pans contained from two to six ounces of gold. There is a larger body of this pay channel, as I have stated, and it only awaits capital to open up a "golden stream" that will eclipse the pale "chloride luster" of White Pine.

I will give a particular description of the different strata or layers of the gravel deposit in the Teaff shaft, in my next, and note some of the singularities of the same.

A. E. R.

Dutch Flat, Feb. 9th, 1869.

Mechanical.

Apparatus for Taking Birds'-eye Views.—A new instrument named the "Ophthalmos," (Greek word for eye) has been devised for the above named purpose by a Virginia clergyman. Professor Williamson, of the Virginia Military Institute, describes it as an "automatic magnetic photographic camera, to be attached to a small balloon and elevated, without the operator, to any hight above the earth's surface, when, by a clock, working on a lever, in one form, and by an electro-magnet drawing the lever, in the other form of the invention, by the revolution of a disk at the lower end of the pendent instrument, the camera is opened and then shut and the photograph of the subjacent surface of the earth is instantly taken. At the same instant that the revolving disk operated by a coiled spring, opene the camera, the magnetic needle is fixed in its position by a mesh of wire that is thrown down upon it; and when the apparatus is drawn down by the ends the picture is found taken, with all the points and bearings of the compass."

Professor W. says that it will be of great use not only for making military reconnoissances, etc., but in the explorations of shoals, estuaries, and rivers to be made by the Coast Survey. Aëronauts testify that lakes, rivers and seas are transparent to a great depth when viewed from a balloon at a great hight. The geological formations at the bottoms of rivers are distinctly traceable by the naked eye from a mile's elevation above. Thus the rocks and reefs may actually be photographed for the mariner's use; and the general in the field may see the lay of the land for himself without being dependent upon the report of an aëronaut.

Steel in the St. Louis Bridge.—The following is from the report of Mr. Eads, the Engineer-in-chief for this magnificent work: "To insure a uniform quality and high grade of steel at the lowest prices, and at the same time avail myself of the advantages of the tubular form of construction, I propose to have the steel rolled for the arches in bars of 9 feet length and of such form that 10 of them shall fill the circumference of a 9-inch lap-welded tube about ¼-inch thick, in the manner that the staves of a barrel fill the hoops. This would virtually form a steel tube 9 inches in diameter and of 6 inches bore, the steel being about 1½ inches thick, and would be much less expensive than if the tube were rolled or drawn in one piece. The manufacture of steel in such small bars will insure a more uniform quality in the metal, and in the tube each bar will be supported against deflection in every direction. The tubes will be retained in their positions by an effective system of bracing, which will sustain the *voussoirs*, or pieces against which the tubes are butted throughout the arch. The upper and lower members of each arch will each be formed of two courses of these tubes, from end to end of the arch, each tube having a sectional area of 36 square inches at the summit of the arch. As each span would be made up of four arches, and each arch of four of these tubes, the span would have an aggregate sectional area at that part of 576 cubic inches of steel."

A Glue which will Unite even Polished Steel.—A Turkish recipe for a cement used to fasten diamonds and other precious stones to metallic surfaces, and which is said to strongly unite even surfaces of polished steel, although exposed to moisture, is as follows:

Dissolve five or six bits of gum mastic, each of the size of a large pea, in as much spirits of wine as will suffice to render it liquid. In another vessel, dissolve in brandy as much isinglass, previously softened in water, as will make a two-ounce vial of strong glue, adding two small bits of gum ammoniac, which must be rubbed until dissolved. Then mix the whole with heat. Keep in a vial closely stopped. When it is to be used, set the vial in boiling water.

Giffard's Injector and Morton's Ejector.—*Engineering* has the following: "Paradoxical as Giffard's injector appeared, at first sight, its action admitted of clear explanation. In a boiler under pressure of 100lbs. per square inch, equal to a head of water of 230 feet, the water would rush out of any opening with a velocity (were there no friction, atmospheric resistance, or loss of head) of about 121 feet per second. But were an opposing jet to move with a greater velocity it would drive back the escaping steam and force its own way into the boiler. This is what happens in the injector, and for a simple reason. A jet of steam moving with a velocity of perhaps 1,700 feet per second is instantly condensed in perhaps twelve times its own weight of water. The combined jet will then move with one-thirteenth its former velocity, or about 131 feet per second, the motion of the steam being wholly imparted to the water. Thus the jet, properly directed, enters the boiler.

"In Morton's condenser the escaping exhaust steam, properly directed, is condensed in, and its own motion imparted to, a jet of water previously set in motion by a small steam-jet, and the experiments recorded appear to show that the lateral action of the jet is sufficient to draw with it all the air that collects down to a vacuum of 12 lbs or 13 lbs. The abstraction of the air is perhaps the only thing that is really puzzling in the matter, unless it be that the very rapidity with which the stream concentrates upon and within the passing jet of water carries the air wholly against or even into the jet also. But there is one thing in the record of experiments which requires some explanation. The units of heat imparted to the injection-water were from 2·1 to 2·9 times those contained in the heat of condensation of the steam shown by the indicator. Not only this, but the steam represented by the increase of temperature imparted to the injection-water amounted to more than 60 lbs. per indicated horse-power per hour. It might be suspected that, notwithstanding the assertion that no steam was used direct from the boiler to keep the jet in motion, the little regulating valve was open, and thus it might prove that as much live steam was used to work the condenser as to work the engines themselves. This, however, is not said as in any way conclusive, but as a matter requiring explanation. The new condenser is at least the simplest and most interesting apparatus of the kind ever proposed, and we sincerely hope its results will equal in success those of the injector itself."

A Museum of the Elements of Machines.—A new plan is to be adopted in the collecting of machine models which is to be made for the Museum of Arts connected with the Massachusetts Institute of Technology. Models of the *elements* of machinery, and their simple combinations, are to be procured; not the machines themselves. The latter are so constantly changing, by improvements of every conceivable description, that a collection of them would be not only of immense bulk, and extremely expensive, but would very shortly be found to consist in large proportion of machines which are out of date and comparatively valueless. Moreover, as the object of the collection is to provide specimens for study, it is obvious that the end is attained far more effectually by means of models of the manageable elementary parts than by the more complex entire machines. It is the characteristic portion only which is the object of study. The elements are the *roots*,—and never change essentially. The *Scientific American* speaks of the idea as an excellent one; and shows that such a collection will be of great assistance to inventors themselves,—serving for them the same purpose that dictionaries and gazetteers serve for authors. An inventor, for instance, has a certain point to gain in the detail of the construction of his machine. A brief consultation of such a collection as this, settles the point, and saves much study. "Many simple and familiar contrivances are constantly re-invented. * * Without diminishing the field for inventive genius, it will instruct inventors as a class in what has already been done."

To Tin Iron.—Clean by immersion in dilute sulphuric acid and scratch-brushing, or by any other convenient method, and immerse in melted tin. If sulphuric acid is used for cleaning, the castings, after being scratched-brushed, should be dipped in a bath of limewater to neutralize the acid and then dried. They will take tin better by being first dipped in melted tallow free from salt. The tin should also have melted tallow on its surface while the dipping is going on.—*Scientific American.*

Scientific Miscellany.

Science for Grape-growers — The Oidium.—Many of the smaller fungi have two or more entirely different forms; which have at first been regarded as different species belonging to different genera. Several instances of this "dimorphism" are given by John L. Russell, in the February number of the *American Naturalist*. Among them is the "delicate mouldiness which covers the leaves of many plants, as the lilac, the grape, and the fruit of the gooseberry, and looks like strings of beads made of colorless cells,—in this condition known and described as *Oidium;* the spores being the self-same beads, and egg-shaped or oviform, whence the generic name. But careful observation will persuade us that this is not the perfect condition; later in autumn these threads become more compact, and are surmounted on their horizontal surfaces by shining black capsules, or perithecia, each of which is filled with elegant liptical and elongated cells, and these each in turn containing several spores. The famous grape mildew, so destructive to the foliage of the wine and table grapes of Europe, and known as *Oidium Tuckeri*, is thus only an imperfect form of some common *Erisyphe*, or mildew; and in this portion of Massachusetts, so far as I have observed, it is the *Uncinula spiralis* which attacked the foliage of the sweet water grapes at Salem, in 1850, and the same parasitic fungus which covered the leaves of the wild grape, Isabella, and other hardy varieties, and which can be detected every season to a greater or less extent."

Cause of the Blue Color of the Sky. In a recent lecture (Jan. 15th) at the Royal Institution, Professor Tyndall exhibited some of the experiments in the decomposition of vapors by means of the electric light, to which we have referred in a previous issue, and showed that the light from the blue sky is polarized by transmission through particles of some kind. The light of the blue cloud in the tube employed in the experiment aforesaid, was polarized in such a manner that it was completely stopped by a piece of tourmaline held parallel to the cloud; but if the tourmaline was held at right angles to it, the light passed freely. Examination of the light from the blue sky in a similar manner at sunset, by means of a prism of Iceland spar, showed that it was transmitted at one angle by the prism, but at another was quenched. The sky and clouds were differently polarized, for in his prism he could get a dark sky with light clouds, and black clouds with a background of light sky. The greatest polarization was at right angles to the track of the solar beam. The experiment with the tube proved that it was only necessary to have very small particles in the atmosphere to produce blue sky and the polarization of the solar light. What these particles are is doubtful. Possibly the phenomena may be due to the slow formation or melting away of the clouds.

Archæological.—The American Consul in Larnaca, Cyprus, was recently led to make excavations at the village of Dali, the ancient Idalium, by the reports of a peasant. The result was, the discovery of an ancient Greek necropolis at a depth of only three feet, under which were older Phenician graves, oven-shaped, and closed with great blocks of stone. In some of them were found vases with Phenician inscriptions and statuettes of women. The spoils of the Grecian tombs are exceedingly rich. Among the articles are golden necklaces and ear-rings, silver bracelets, copper, and bronze battle axes, lance and spear-heads, mirrors, tripods, coins, medallions, gems (especially of amethyst, ruby, and agate), glass vessels, statuettes, busts, and a great quantity of objects in terra cotta. Many of the painted vases are three feet in hight. What disposition will be made of these treasures has not yet been announced.

The Metal Hydrogen.—We have before alluded to the announcement that Dr. Graham has probably verified the conjecture of scientists, that hydrogen is a metal. The extraction of a large amount of occluded hydrogen from the Lenarto meteorite, which astonished the world a year or so ago,—as our readers will remember,—was a step towards this splendid conclusion. Professor Graham has since experimented largely in this direction; and, as we have seen from time to time, has succeded in artificially occluding this gas in iron, platinium, palladium, and other metals. In other words, he has, by causing any one of these metals to *absorb* hydrogen,—as melted silver absorbs oxygen, or as water absorbs ammonia,—produced an *alloy* of that metal with hydrogen; which alloy is less dense, but more magnetic, than the aforesaid metal alone. Palladium occludes, or "shuts up," or absorbs, eight or nine hundred times its volume of hydrogen. This gas, so volatile in its character, is thus effectually imprisoned, so to speak, as to its particles, between the particles of the donser metal; and the resulting compound metal, partakes, like other alloys, of the charactere of both its constituents. Professor Graham has, by calculation, found the density of hydrogen to be 1.951.

Death of Professor Forbes.—James D. Forbes, D. C. L., died on the last day of the year. He was a scientist of note. For twenty-six years he was Professor of Natural Philosophy in the University of Edinburgh, to which Chair he was elected at the age of twenty-three, in preference to Sir David Brewster, who was a candidate for the position. He was Fellow of the Royal Society of Edinburgh, Fellow of the Royal Society of London, Corresponding Member of the Institute of France, Fellow of the Geological Society, and member of various other scientific societies at home and abroad; and he received the degree of D. C. L. from the University of Oxford. His scientific investigations in reference to heat and light, were original and important. He was the first to prove the *polarization of heat*, and the first to investigate the *laws of glacier motion*. He is the author of a multitude of papers upon scientific subjects.

Different Constitution of Different Planets.—*Fraser's Magazine* has an article entitled "The Materials of our Universe," in which the writer thus speaks of the testimony borne by the spectroscope to the diversity of constitution among the planets: "It has long been known that, on earth, the interruptions in the solar light are unchanged by reflection, even from an irregular surface. If, then, the spectra of the planets are not faithful reproductions of that of the sun, the difference must be due to a diversity of elementary constitution—and probably in the quality of the surrounding atmosphere. The moon, thus interrogated, 'takes up the wondrous tale' in accurate repetition, according with the absence, or rather the extreme tenuity, of atmospheric covering. Venus, too, shows no deviation. But it is otherwise in Mars, Jupiter, and Saturn, the light of each of which indicates a something which would probably not be visible in the terrestial spectrum viewed from a corresponding distance, and which leads to the impression that their atmospheres, though in general character similar to our own, contain elements not identical with those which surround our globe."

Test for a Free Acid.—Mr. E. Smith, gives the following in the *Chemical News:* "Dissolve chloride of silver in just sufficient ammonia to make a clear solution. If a little of the test be added to ordinary spring water the carbonic acid present in the latter will neutralize the ammonia, and precipitate the chloride. The above forms a good lecture experiment, the test being a very delicate one."

Nitrogen Gas.—Signor M. Levi, an Italian Chemist, has made known a new method of preparing this gas. It consists in heating bichromate of ammonia in a retort; the salt is by this means resolved into green oxide of chromium, water, and nitrogen gas.

Contributions for our Cabinet.

Nos. 365, 366, 367, 368 and 369.—Auriferous sulphurets, from Hites' mine, Hites' Cove; Harhor mine, Snow Creek; Ferguson mine, near Hites' Cove; Oakes & Reese and Lafayette mine, Hunter's Valley, Mariposa County. Presented by agent.

Nos. 370 and 371.—Peacock copper ore, and hlue carhonate of copper, from Hunter's Valley, Mariposa County. Presented by agent.

No. 372.—Gold iu steatite, from Dr. Hill's mine, Angel's Camp.

No. 373.—Micaceous iron, from Angel's Camp. Dr. Hill.

No. 374.—Pyrites, apparently hut not actually coutaining nickel. Dr. Hill.

No. 375.—Croppings of Tuscon mine, Treasnre Hill, containing chloride of silver. Presented by C. H. Dewey.

No. 376.—Cinnahar; a very rich, pure specimen, crystallized in small prisms; mixed with iron pyrites. From the Mount Diahlo Quicksilver mine, near Clayton. Capt. Harding, Superintendent.

No. 377.—Quicksilver, from the same.

No. 378.—Arragonite (rhomhic or prismatic carhonate of lime,) found in Tuolumne county, hy Mr. Johnson, and supposed hy him to he identical with a very excellent flux mineral which he has seen used in Nevada, but which was probahly fluor spar.

No. 379.—Jasper. Presented by Dr. Hough, Martinez.

No. 380.—Fossils from from Tertiary or Cretaceous rocks, near Martinez. From Dr. Hough.

No. 381.—Magnesite (carhonate of magnesia), containing a little alumina. From W. Frank Stewart, of San José, who says: "This substance occure in extensive gangues, hetween granitic and metamorphic rocks in the Mount Diahlo range, six miles eastwardly from San José. The beds of this mineral are inexhaustihle and easy of access, and if it proves to be what I think it is, will be valuable.

The Tin and Copper Market.—We extract the following from Winterhoff's Metal Circular, dated New York, Feb. 4th:

Tin has advanced, with quite a large business, to 31½c. gold for Straits, 32½c. for Banca, and 30c. for English. The supply for the spring trade is thus very small, and it is probable that we shall have to draw a little Straits from England, although our prices are still 10 per cent. below the cost of importation from there. The stock is all in speculators' hands, viz. 10,500 slahs Straits, 1,200 slabs Banca and Billiton, and 50 tons English, equal to 1,500 slabs; total New York and Boston, 13,200 slabs, against 11,900 slahs 1st Fehrnary, 1868. In Singapore the quotation was $26½ on the 20th January. The production of England and the East Indies for 1868 is estimated at 19,600 tons against 21,500 tons in 1867; the consumption of Europe and America last year has on the other hand increased to 22,500 tons against 21,500 tons in 1867. The stocks in London and Amsterdam, including the expected arrivals amounted on the 1st January to 8,000 tons, against 10,100 last year, and 11,800 tons in 1867. The consumption of Tin plates, as well as the raw material, is likely to he still more stimulated by the introduction of tin cans and cases for the transportation of petroleum now coming into use.

Copper has been largely dealt in on speculation, and is quoted to-day 26¾c. for Baltimore, 26¾c. for Lake Superior; an advance of 3c. per pound since the 1st of January.

The Tariff Bill passed hy the House and amended by the Senate is again to he voted and will prohahly hecome a law. The smelters in the Atlantic States have almost ceased operations, and at Lake Superior the production has heen very small during the winter. The consumption is good, and there is every prospect of a still further rise in the price.

The London market was quoted on the 30th ult., £74 for Chili bars, a decline of £1 from the highest point in the middle of January.

45 tons Quincy have been shipped from Havre to our port, and probahly a few more parcels may come back.

New Patents Issued to Pacific Coast Inventors.

For the Week Ending February 9th.

86,648.—Improvement in Wagon-Brake Blocks.—Heman Crowell, Washington Corners, Cal.:

I claim confining the hrake hoards or strips F, F, to the hrake hlock hy the clips C, C, provided with longitudinal pieces D, D, having points E, E, or the ends of the clips hent at right angles over the said strips, substautially as described.

The rubbing hoards or strips are held by clips, the shanks of which pass through the hrake-hlock, where they are held and adjusted hy set-crews.

86,677.—Improved Apparatus for Confining Horse Powers.—Richard Knott, Suisun, Cal.:

I claim the hars B, B, and D, D, rods C, C, and straps E, in combination with the frame A, the whole constructed and arranged substantially as and for the purpose ahove described.

This device cousists in the combiuation and arrangement of iron bars and stakes in securing horse-powers to the ground.

86,681.—Improvement in Machine for Cutting Grape Vines.—Louis W. Mayer, Sonoma, Cal.:

1. I claim the vine-cutter, consisting of the stationary knife E, and the revolving knives a, a, a, or equivalent device, together with the feeding-hopper or trough H, the whole constructed and operating suhstantially as and for the purpose described.

2. I claim the long curved fingers b, h, h, for taking up the vines, together with the revolving arm G, and its fingers c, c, c, or equivalent device, for carrying the vines to the feeding trough or hopper, suhstantially as herein described.

This is a machine for cutting grape vines which have becn pruned from the main vine into small pieces, in order that they may be nsefnl as a manure, by being turned under by the plow and allowed to rot, thus restoring to the ground the suhstance which is drawn from it to produce the vines. It is a well-known fact that where the grape is grown for a series of years upon the same spot, the ground will lose in a great measure that substance which is required to nourish them. The invention consists of a frame mounted upon two broad-faced wheels furnished with inside gearing in which pinions operate for driving the knives or cutters, which are attached at intervals aronnd the pinion shaft, and stand at an angle. A stationary knife is also attached to the axle of the wheels. Passing across the frame back of the wheels and turning loosely on small axles which have their hearing in the side timhers of the frame, is a shaft, from which long curved fingers, which sweep the ground in front, depend and gather up the vines. To one of the wheels near its face is attached an arm which carries a series of shorter curved fingers, which, passing around with the wheel, take up the vines from the long fingers, and drop them into a trough over the knives, where they are caught by the knives and cut into small chips, which fall to the ground heneath.

86,695.—Improvement in Sewing Machine for Sewing Leather.—William Wilson Russell, Tepic, Mexico:

1. I claim in combination with the swinging head M, the double wheel G, and the awl and needle-carrying arms H and I, suhstantially as described.

2. I claim the combination with the head M, and arm S, provided with adjustable rollers, of the cams or plates P and R, suhstantially as described.

3. I claim the combination of the hook V, with the awl L, making a hole for the needle, for taking, carrying forward, and holding the loop until the needle descends through it to form a new one.

4. I claim the combiniou of the awl L, and the needle K, when so arranged that the rising of the needle-holder lifts the presser, and the awl moves the material the length of a stitch, hefore withdrawing from the hole it has made, to give place to the needle, substantially as described.

The object of this invention is to provide an improved machine for stitching leather and other heavy, firm materials, and it consists in the employment of an awl which first pierces the leather for the passage of the needle. This needle is passed into the same hole by an arrangement of cams which produce a peculiar swinging motion of the head of the machine, and they may also he regulated so as to give a long or short stitch as desired. It also consists in a peculiar movement of the hook or looper, which takes the thread from the needle and holds it till the needle leaves the leather, then advances and forms a loop for the awl and retires as soon as the point of the awl passes the loop, so that the leather can feed at the same time the thread is tightening around the awl.

86,880.—Improved Drill Stock.—Edward A. Stockton, San Francisco, Cal.:

I claim the roller E, the inclined pieces D, and the spring C, arranged in handle B, and combined with the drill-stock A, substantially as and for the purpose described.

This invention relates to a new mode of operating a drill-stock by means of a friction roller placed in an inclined recess or chamher on the inside of the eye of the handle, so that by moving the handle in one direction the roller is moved into a deeper portion of the recess, and allows the handle to turn freely on the stock in that direction. By reversing the movement of the handle the roller moves up the incline and hinds against the stock, and moves it also, and at the same time the drill is fed hy a screw in the usual manner.

The following are from the list published last week,—with additional descriptions.

86,564.—Improvement in Elevator and Table for Feeding Grain Separators. Don Carlos Matteson and Truman Pane Williamson, Stockton, Cal.:

1. We claim the cross-bar D, and the boxes or eyeholts E E, substantially as and for the purpose specified.

2. We claim the hinged-drop bar K, and the holding-hraces N N, constructed and operated suhstantially as and for the purposes herein described.

This is an improved movahle elevator and table for feeding the nnthreshed straw from the stack to separators, dispensiug with much of the manual lahor heretofore necessary. The whole machine is so constructed that it can he easily moved from stack to stack as required. A tahle is constructed of sufficient size to hold the necessary quantity of straw to feed the thresher or separator, and is mounted upon wheels having a pole and the usual devices for attaching horses to move it. A derrick of considerahle hight rises from the table, its foot heing pivoted on a movahle har beneath the tahle. The elevating fork is attached to a rope passing over a pulley at the top of the derrick, and thence to another beneath the tahle, so that horse-power may he used to elevate the straw. In order to place the latter pulley low enough, it is fastened to a har which is hinged at one end to one of the side sills of the machine. The other end is dropped on the ground and to adjnstahle braces passing from it to the opposite side sill, to keep it down when in use. Whenever it is necessary to remove to another place, the hraces are disconnected and the cross-bar drawn up out of the way.

86,565.—Improvement in Horse Hay Forks.—Don Carlos Matteson and Truman Pane Williamson, Stockton, Cal.:

1. We claim the plate O, with its lugs M M and *u*, and the spur P, constructed and arranged suhstantially as herein described.

2. The stirrup A passing around the post N, suhstantially as and for the purpose described.

This is an improvement for strengthening hay forks at that point where the strain comes in operation, and it consists in hinding the head or cross timher to which the tines are attached and the upright post together without a mortice, by means of iron straps and hands, which closely and firmly hold them. In a horse hay fork, the point where all have so far failed to withstand the rough usuage they are suhjected to, is at this junction of the several parts, on account of the cutting away of the wood necessary to secure them and give them a proper amount of firmness.

After the 13th inst., the San José Railroad trains will run as far as Gilroy. The *Bulletin* furnishes additional points in favor of the early prosecntion of construction on the Southern Pacific Railroad.

DEWEY & CO.

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PATENT AGENCY

FOR THE PACIFIC COAST.

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Letters Patent.

A patent is an open letter, embodying all tho language of an inventor or his agent, contained in the specification, without alteration, and is granted to citizens of the United States, or Foreigners, male or females, (including minors), and is signed by the Secretary of the Interior and tho Commissioner of Patents, with the seal of the Patent Office affixed. Its jurisdiction is for the whole United States, for the term of seventeen years.

A patent right is personal property, and is nssignable, but cannot be seized and sold on execution.

Caveats.

A caveat is a description of the invention designed to be patented, lodged in the Patent Office before the patent is npplied for, and while the inventor is perfecting his design. When *properly* made, it operates as n bar to applications respecting tho same invention from any other quarter; but when improperly done, it is inoperative by reason of such defect. The Patent Office nlways returns a receipt for caveat papers, but does not seek to point out its incorrectness, unless there be some glaring defect.

Our fee for a caveat varies from $10 to $15. The Government fee is $10.

What Claims can be Patented?

A knowledge of Ancient nnd Modern Mechanics and familiarity with American and Foreign patent issues and rejections, enables ns to determine in n measure in all cases what can be patented, and how much can he claimed ns new and novel, and be covered hy Letters Patent. This is one nf the most difficult questions encountered by both old nnd new inventors—one in which nn experienced counsel is of great service.

Confidential Advice.

We invite consultation (in person or hy mail) regarding new inventions, for which we make no charge. Communications kept inviolately secret, and honest and reliable advice given. Our permanent business interests gnarantee, and the thonsands on this coast who have consulted us will testify, to our strict compliance with our obligations to inventors.

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We draw up legal assignments for patentees; record nssignments in the Patent Office; procuro copies of United States and foreign patents; make examinations here and nt Washington regarding the patentability of inventinns; take up and prosecute rejected cases, depending npon success for our fees; reissnes taken out; interferences prosecuted —in fact, every legitimate branch of the patent agency business is thoronghly conducted by us here and our branch agency in Washington.

California inventors should beware of placing their inventions and money in the hands of persons not well known as honest, responsible and capable.

Patent Office Reports.

We have the only complete set of U. S. Patent Office Reports (from 1844) on this coast; a full record of all patents issued since 1790; Record of British patents from 1801 to 1845, and full files of scientific papers containing illustrations and list of U. S. Patent Claims, forming the only extensive library of patent works west of the Rocky Mountains. We offer patentees and inventors the free use of these books at our office. The files of the Mining and Scientific Press contain the claims of the Pacific Coast Patents, and many illustrated descriptions of the same. We have also in our office *full copies* of a large majority of the patent cases emanating on the Pacific Coast.

DEWEY & CO.,

414 Clay street, below Sansome, San Francisco.

Weekly Stock Circular.

By Associated Brokers of the S F. Stock and Exchange Board

San Francisco, March 13, 1869.

City Stocks.

The miscellaneous share market has been characterized by slightly increased activity over the transactions of the previous week. We note sales of Pacific Insurance stock at $128. One hundred shares of National Insurance stock (this company is now winding up its business) sold at $86 per share. The San Francisco Ins. Co. (also in course of liquidation) will hold a meeting on the 16th inst. The assets of this company continue to pay very handsome dividends to its stockholders. Gas stock was in the market at $80@79, sales to a considerable extent having been effected at these figures. Spring Valley Water sold at $68 50@68.

The amount of marine premiums paid to the several insurance companies of this city, for the three months ending January 31, 1869, as compared with the quarter ending October 31, 1868, are as follows:

Companies.	Jan. 31, '69.	Oct. 31, '68.
Merchants'	$65,012	$76,972
Pacific	42,531	65,705
Union	41,896	62,079
California	33,288	41,649
Fireman's Fund	18,563	18,460
Occidental	11,249	6,389
Home Mutual	8,836	6,136
Total	$221,375	$277,390

Showing a decrease of $56,015.

The Bank of California disburses its usual monthly dividend on the 15th inst.

Mining Share Market.

During the past week the mining share market manifested a slight recession from the activity that prevailed during the previous similar period; however, there was a larger variety of stocks disposed of, though the transactions did not aggregate so large an amount. Prices were also somewhat off; and, as a general thing, the market was not so firm.

Opnir—declined from $39 to $34, and at the close realized $35. The long continued hardness of the rock in the lower drift is quite unexpected. On the 9th inst., they cut a strong seam of clay, but it produced no change in the rock. The probabilities are that it indicates a near approach to the ledge. On the 10th inst., the drift had attained a dista ce of 74 feet.

Imperial—sold within a range of $110@101 50, improved to $107, and closed yesterday at $103 50. The operations in the lower drifts have not yet shown any favorable developments. On the 12th inst., the drift from 1,000 level was in 72¼ feet, and on the 1,100 level 44¼ feet of drifting had been accomplished.....Kentuck was in moderate request at $255@270, and at the close sold at $265. The hullion returns in February amounted to $54,014 against $83,335 in January. No dividend the present month.

Hale & Norcross—has been in good request, selling with a range of $93@88, then at $90, and closing at $88. The eighth annual meeting of the stockholders of this company was held on the 10th inst. From the President's report we make the following extracts:

From the third station to the fourth—from the sill floor in third station—it was, from appearances, confidently anticipated that in going down to fourth station, that the ore would widen out and prove richer as we went down on it, but it pinched out in going down, and the ore deteriorated in value or grade, so that in reaching and drifting in on the fourth station we did not find a continuous ledge from third to fourth stations. In the fourth level, or station, so far as opened, ore has been developed north and south. In the north drifts and cross-cuts, portions of the ore is high grade, while portions of it are only fair and low grade. In the south drifts, from main tunnel, the ore developed thus far is of low grade. In upper levels, say from one hundred and seventy-five feet from surface down to three or four hundred feet, there are large quantities of low grade ore, which, under present prices of mining and working ores, do not pay the company much, if any profit, to mine and work them, as in drifts below these low grade ores do not pay a profit to take out and work, but a reduction in mining expenses and milling, would pay the company a handsome profit; hence these low grade ores have not been taken out to any extent. In this view of the case, and with a view to lessen the expenses of mining and working all ores, the price of wood and timber must be reduced, which, in working the mines (at and around Virginia City), are the heaviest items of expense in mining and working the ores. To effect this, the transportation of wood and timber, from districts producing them, must be reduced, which can only be accomplished by railroad facilities. The Truckee Railroad Company propose and will, no doubt, effect this object, and reduce the price of wood and timber about one-half, or at least fifty per cent., as well as upon the price of other material required at the mines; it being a foregone conclusion that this railroad will be completed during the ensuing year. Therefore, it is almost certain that the expenses of working the mines will be reduced as soon as the Truckee Railroad is completed and in working order, at least fifty per cent., which will enable the Hale & Norcross mine to work all their low grade ores at a handsome profit. To accomplish this desirable result, it was necessary that the different mining companies should aid in the construction of this road, by advancing certain sums of money to the Truckee Railroad Company, to be reimbursed to the mining companies in freights of all kinds of materials required at the mines, at fair and moderate rates. Seeing and believing that the construction of this railroad would enure greatly to the benefit of this and all other mining companies in this section, and eventually be a great saving to the mining companies, the Board of Trustees deemed it advisable to subscribe and advance to the railroad company $25,000, payable in monthly installments of $5,000 each—first installment payable 15th March, inst., and monthly afterward, to the amount of the subscription ($25,000). The recent developments in the mine are more encouraging, showing considerable improvement, with the drift from the shaft on the fifth station, now in some seventy feet, which will soon reach the veins above, and it is hoped and believed, will soon place the company in a more flourishing condition.

From the Secretary's report we obtain the following financial facts:

RECEIPTS.

Cash on hand February 29, 1868	$3,918 18
From assessments	201,960 00
Bullion and ores sold	395,691 77
Fair shaft account—transfer of materials to mine account	19,542 35
Cash for amount of overdraft at Bank of California	4,637 00
Sundries	4,720 21
	$630,469 51

DISBURSEMENTS.

Mine account	$275,286 79
Ore account—reduction	216,775 47
Machinery account	9,345 55
Fair shaft account	12,278 90
Salary account	13,100 00
Bank of California	61,784 72
Bills payable	7,283 68
Sundries	34,477 26
Cash on hand	137 74
	$630,469 51

The expense of reducing 16,535¼ tons of ore amounted to $13 11 per ton. During 1866, the hullion yield aggregated $1,355,220, equal to $47 32 per ton; in 1867, $864,998, equal to $34 14 per ton; in 1868, $395,146, equal to $23 89 per ton. The statement shows an excess of assets over liabilities amounting to $218,-981 51. Assessment No. 34, of $5, has been rescinded. On the 10th inst., there was from three to four feet of ore in the wiuze to the fifth station, and reported to be of improved quality. Necessary dead work has prevented sending out larger quantities of ore from the fifth level.

Savage—sold quite largely at $71@64 50, closing at $65. A dividend of $4 per share is payable since the 11th inst. The bullion returns for February aggregated $174,300 against $176,700 in January....Yellow Jacket exhibited a fair degree of activity, selling at $71@69, and closiug at $68 50. A dividend of $5 per share is payable ou the 15th inst. This company is said to have reached an excellent paying body of ore in a very considerable quantity.

Amador (Cal.)—closed at $290. This company continues to maintain its well-merited reputation. The bullion for February account is the largest yield for any one month, reaching $65,400. A dividend of $10 per share was paid on the 9th inst....Eureka (Cal.) shows a hullion yield of $22,500 for the first twelve days' run of the present month. A dividend of $5 per share is payable since the 10th....Confidence sold at $40@34. No hullion returns during the month of February. On the 11th inst., $3,066 came to hand.

Alpha—was quite active at a decline, receding from $51 50 to $42 50, and closing yesterday at $44. On the 11th no change had taken place in the southeast drift. They had cut eight feet into the quartz and porphyry on the east side of the clay. The northeast drift is in more quartz, and is said to look quite favorable for ore. Work proceeds slowly, on account of hardness of rock ...Chollar-Potosi changed hands at $174@163, and closed at $165. During the week ending March 5th, they extracted 740 tons of ore. Nothing of a favorable nature from the mine. The bullion receipts during the month of February amounted to $74,869 against $50,700 in January.

Pocotillo (White Pine)—was in the market during the week at $20@18 50 per share..... Large sales of Silver Cord (Idaho) were made at $17 50@15.

The sales in the San Francisco Stock and Exchange Board since last Saturday amounted to $1,547,566.

Boring for Horizontal Chloride Deposits.

A correspondent of the White Pine *News*, says: "Several gentlemen, with the assistance of Mr. Stanton, are *boring* for mineral. The present pioneer work in that line is on the Lapatria mine, west of the Eberhardt mine, and to the right of the road leading to that mine. The work is prosecuted so quietly by two men that one can hardly find them, and yet they are doing good service. I believe it to be the proper mode of prospecting here where the ore seems to be under the limestone lying horizontally."

Tide Lands at San Francisco.

The map of the tide lands in this city and county, prepared by Engineer Allardet, has been completed, and a copy is being prepared for the office of the Secretary of State. The Board of Tide Land Commissioners have not as yet passed upon the numerous claims which have been presented, but have them under an almost daily consideration. It is more than likely that these claims will be so far settled that the railroad reservations may be made in a few days.—*Herald.*

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale
Amador Co., div. $6 per share	Payable March 10, 1869	
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7 50	Payable Sept. 12 1868	
Chloride Mt Tun., White Pine, Feb. 2, 50c	Mar 13—Ap. 10*	
Cordillera, Mex	Annual Meeting March 15	
Coney, preferred Stock, div. 1½ per cent	March 10, 1869	
Cherokee Flat, Butte co March 1, $5	April 3—April 20	
Daney, Lyon co. Nev., March 8, $2.50	April 12—May 3	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $5	Payable March 10, 1869	
Folsom St. & Ft. Pt. R. R. Jan. 30, $5	March 3—March 20	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 12, 1868	
Golden Rule, Tuolumne co, div. 50c ₱ sh	Pay. Feb. 26, 18 9	
Glenwood, El Dorado co, Feb 19, $25	April 2—April 2 *	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hope Gravel, Nevada co	Meeting March 15	
IXL, Alpine co., Jan. 19, $1 50	Feb. 27—March 17*	
Imperial, Storey co., Nev., div	Payable June 23, 1868	
Julia, Storey co, Nev	Meeting, March 25	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Keystone	Meeting April 2	
Lyon M & M., El Dorado co., Mar 6, $1	April 12—April 20*	
Mt. Tenabo, Lander co, Jan. 23, 75c	April 2—April 27*	
Mohawk & Montreal, Nev. co., Feb. 10, $3	Mar. 15—Mar. 31	
Mohawk & Montreal, Nevada co	Meeting March 15	
Maxwell, Amador co., Feb. 9 $1	March 13—April 1	
Morning Star, Alpine co, March 3, $2	April 5—April 26	
North Star, dividend, $5	Payable Aug. 15, 1868	
North Amer., Wood P. Co., March 12, $1	April 14—May 1*	
Oriental, Sierra co, Jan. 4, $2.50	Feb. 5—Feb. 20	
Occidental, div $2	Payable March 2, 1869	
Peninsula, Storey co., Dec. 15, $10	Feb. 11—March 6	
Pacific Unassessable, div	Payable June 18, 1868	
Pocotillo	Annual Meeting March 22	
Rattlesnake, Yuba co, Dec. 19, $7.50	Jan. 21—Feb. 18*	
Rising Star, Idaho, Feb. 8, $6	March 31—April 3	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1	Payable Jan 5, 1869	
Star Creek, Nev., Feb. 26, $1.50	March 29—April 19*	
Savage, Virginia, Nev. dividend, $4	Payable March 4, 1869	
San Marcial, Sonora, Mex	Meeting, March 16	
Treasure Trove, Lander co., Feb. 15, 20c	M'ch 2t—April 12	
Virginia & G. H Water Co	Dividend, payable Mar. 10, 1869	
Yellow Jacket, div., $5	Payable March 16, 1869	

Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Friday Evening, March 12, 1869.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s, '65, '67, '68	$ 84	85
United States Bonds, 5 20s, 1864	84	85
United States Bonds, 5 20s, 1862	85	86
Legal Tender Notes	77½	77¾
California State Bonds, 7s, 1857	97½	98
San Francisco Bonds, 10s, 1851	par & Int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & Int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1866	91	—
San Francisco City and Co. Bonds, 7s, 1862	85	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co. Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	30	31
Sacramento County Bonds, 6s	65	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	70
Yuba County Bonds, 8s	80	85
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
Butte County Bonds, 7s	75	80
California Steam Navigation Co	65	—
Spring Valley Water Co	68	—
State Telegraph Co	26	—
Gas Companies.		
San Francisco Gas Co	77½	80
Sacramento Gas Co	85	—
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	72	—
Central Railroad	50	—
North Beach and Mission Railroad	71½	72½
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	160
People's Insurance Company	100	—
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	126	128
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	100	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	84	87
Mining Stocks—Washoe District.		
Alpha	43	44
Baltimore American	—	—
Belcher	20½	21
Bullion, C. H	19	20
Crown Point	74	75
Code (Va.)	—	—
Confidence	34	35
Consolidated Virginia	—	—
Chollar-Potosi	164	165
Caney	4	5
Exchequer	20	2 3/4
Empire Mill and Mining Co	70	75
Gould & Curry	108	11 3/4
Gold Hill Quartz	37½	40
Hale & Norcross	87	88
Imperial	103	103
Julia	—	—
Justice and Independent	13	14
Kentuck	264	265
Lady Bryan	14	15
American	14	15½
Ophir	34	35
Overman	67	68
Segregated Belcher	9½	10
Savage	64	65
Sierra Nevada	30	32
Yellow Jacket	68	69
Union	—	—
United States	—	—
Miscellaneous Mining Stocks.		
Amador (California)	290	296
North Star (California)	—	—
Eureka (California)	230	240
Golden Rule, California	10	12

San Francisco Market Rates.

Wholesale Prices.

Friday, March 12, 1869.

Flour, Extra, ₱ bbl	$5 25	@$5 50
Do. Superfine	4 50	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 70
Oats, ₱ 100 lbs	1 75	@ 2 20
Barley, ₱ 100 lbs	1 75	@ 2 25
Beans, ₱ 100 lbs	6 00	@ 7 00
Potatoes, ₱ 100 lbs	75	@ 90
Hay, ₱ ton	10 00	@18 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	11	@ 12
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	6	@ 7
Hogs, dressed, ₱ lb	9	@ 10

Groceries, etc.			
Sugar, crushed, ₱ lb	—	@	17¾
Do. China	10	@	12
Coffee, Costa Rica, ₱ lb	—	@	18
Do. Rio	16¾	@	17
Tea, Japan, ₱ lb	75	@	90
Do Green	80	@	1 25
Hawaiian Rice, ₱ lb	—	@	10
China Rice, ₱ lb	6	@	7
Coal Oil, ₱ gallon	45	@	47½
Candles, ₱ lb	16	@	18
Ranch Butter, ₱ lb	35	@	42½
Isthmus Butter, ₱ lb	42½	@	45
Cheese, California, ₱ lb	15	@	19
Eggs, ₱ dozen	25	@	35
Lard, ₱ lb	13	@	14
Ham and Bacon, ₱ lb	14	@	15
Shoulders, ₱ lb	7	@	8

Retail Prices.

Butter, California, fresh, ₱ lb	46	@	50
do. pickled, ₱ lb	30	@	—
do. Oregon, ₱ lb	20	@	25
do. New York, ₱ lb	35	@	40
Cheese, ₱ lb	20	@	23
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	45	@	50
Lard, ₱ lb	15	@	16
Hams and Bacon, ₱ lb	23	@	25
Cranberries, ₱ gallon	1 25	@	1 50
Potatoes, ₱ lb	1½	@	2
Potatoes, Sweet, ₱ lb	3	@	5
Tomatoes, ₱ lb	3	@	—
Onions, ₱ lb	3	@	—
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	—
Plums, dried, ₱ lb	10	@	12
Peaches, dried, ₱ lb	10	@	12
Oranges, ₱ dozen	50	@	—
Lemons, ₱ dozen	75	@	—
Chickens, apiece	—	@	75
Turkeys, ₱ lb	23	@	25
Soap, Pale and C. O	10	@	12
Soap, Castile, ₱ lb	20	@	—

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than th following quotations.

Friday, March 12, 1869.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.

Scotch and English Pig Iron ₱ ton	$42 50	@$	—
White Pig ₱ ton	37 00	@	38 00
Refined Bar, bad assortment ₱ lb	— 03	@	— —
Refined Bar, good assortment ₱ lb	— 04	@	— —
Boiler, No. 1 to 4	— 04½	@	— —
Plate, No. 5 to 9	— —	@	— 04½
Sheet, No. 10 to 13	— 04½	@	— 5
Sheet, No. 14 to 20	— 05	@	— 5½
Sheet, No. 24 to 27	— 05	@	— 6¼
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb			
Sheathing, ₱ lb	— —	@	— 26
Sheathing, Yellow	— 20	@	— 24
Sheathing, Old Yellow	— 10	@	— 11
Bolts	— 21	@	— 22
Composition Nails	— 21	@	— 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.			
Plates, Charcoal, IX, ₱ box	12 00	@	— —
Plates, I C Charcoal	— —	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs, ₱ lb	— —	@	— 35
Steel.—English Cast Steel, ₱ lb	— —	@	— 15
Quicksilver.—₱ lb	— 55	@	— 60
Lead.—Pig, ₱ lb	— 7½	@	— 8
Sheet	— 10	@	— —
Pipe	— 11	@	— —
Bar	— 9	@	— 9½
Zinc.—Sheets, ₱ lb	— 10½	@	— 11
Borax.—California, ₱ lb	— 35	@	— 38

The Inter-Oceanic Canal.—Captain W. G. Somers, Commander of a steamer on the Magdalena River, Columbia, South America, has arrived at Washington with dispatches from Bogota for the State Department relative to the mission of Caleb Cushing and the Darien Canal. The mission is considered, at Washington, as a complete success.

Not an Excitant.—Persons unacquainted with therapeutics are apt to suppose that medicines containing a diffusive stimulant must necessarily excite the brain. This is a great mistake. The Plantation Bitters, for example, contain St. Croix Rum (the purest and most nourishing of all forms of alcohol, by the way), yet so completely is the exciting principle of the spirit controlled by the rare vegetable substances with which it is impregnated, that the Bitters calm and tranquilize the brain and the nerves instead of spurring them into preternatural activity. Thus, the spirituous element becomes a harmless agent for the rapid diffusion through the system of the most valuable specifics for indigestion, general and local debility, intermittent fever, constipation, liver complaint, and all disorders of the secretive organs.

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Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Markleeville *Miner*, Feb. 27th: Work has been commenced on the Alpine tunnel, now in 58 ft., which will he continued in to intersect the underground workings of the Tarshish mine, thought to be not over 300 ft. distant.

The Illinois California Co., which has been operating iu the granite of Raymond district for several years past, has suspended work.

The Morning Star shaft is now down so near the lode that small strata of ore are being encountered, and the appearance of the ground is very encouraging. The company have portions of the castings for more roasting furnaces to be put up at the Pioneer mill, along the way from Cisco to Carson, and will probably get the mill running again as soon as the roads are in order for the delivery of ore. Parties are desirous to work the Star ore, refractory as it is, at $14 per ton and work it closer up to an assay than is done with Comstock ore. It is further intimated that the second class ore will pay over $100 clear profit per ton.

The new Hagan furnace at Angel's has been running for some time, and some of the roasted rock has been sent to San Francisco and examined. The sulphur was driven off, and so far as an opinion can be formed from the specimens examinod, the success was complete in roasting.

AMADOR COUNTY.

Jackson *Ledger*, March 6th: The mill of the Coney Mining Co., after undergoing a thorough overhauling, and being greatly strenghtened, was started up on Thursday evening, and is now hammering away.

Jackson *Dispatch*, March 6th: We noticed the other day, that some of our citizens had commenced sinking a shaft—or rather a prospect hole—on what is supposed to bo a rich quartz lead, right in the heart of town, on Court street. We did not learn how much the rock was expected to pay per ton, but were informed that the proprietors contemplate the erection of a mill on the lead immediately.

CALAVERAS COUNTY.

Mokelumne Hill *Chronicle*, March 6th: The timber for the new hoisting works to be erected on the Palomo mine, in Lower Rich Gulch, are being hauled as rapidly as possible, and the work will be pushed forward to an early completion.

York, Smith & Co. have purchased the mill formerly in use on the Radford claim, and are husily engaged in transporting it to their quartz lead in Jackass Gulch. The company have developed what promises to be an excellent claim in that locality. More energy is being exhibited this spring, in quartz mining, than ever before.

Since the commencement of the fair weather, mining operations have been renewed with increased vigor. At Railroad Flat labor has been resumed upon all the claims temporarily abandoned during the storm, and pay rock is being extracted in large quantities. The enstom mill heing erected at the Flat, by Mr. Smart, is nearly ready to commence operations, and will afford the miuers of that locality increased facilities for crushing. The celebrated Petticoat mine continues to yield the precious metal with its usual liberality, their mill being kept coustantly employed in crushing ore which averages $100 per ton. This is the most productive claim in the county, and when its resources and wealth are fully developed, it will eclipse any in the State. Sanderson & Co., Gay & Co., the Balmoral, Chemisette and others, are being worked with profit to their owners. All the mines in the district are looking favorably, and the prospects for the future were never brighter.

At West Point, with the opening of spriug, we have the assurance that operations in quartz will he resumed with spirit. West Point was once the "banner" district of the county; hut the ahundance of water has heen too great an obstacle for the miners, with their limited means, to overcome. Proper machinery is now heing erected on several claims, however, to obviate this difficulty, and as the season advances we expect West Point to regain its former flourishing condition.

In Lower Rich Gulch, work is being prosecnted vigorously and successfully. Alexander & Co. are running their mill day and night, and it is giving a first-rate account of itself. This company have been remarkably fortunate from the start. Their mine paid from the commencement of work upon it, and their mill has never been allowed to remained idle. The Palomo Co's mill is not running, it being impossible to get out ore until the new hoisting works are completed. When they are finished, the mine will be thoroughly developed. Norton & Co. are still running their tunnel, endeavoring to find the lead.

From Angels the reports are comforting. Both the large mills in that town are running, business is flourishing and times lively. We have no late advices from the Sheep Ranch district. Calaveras will produce more quartz gold, the present season, than ever before.

EL DORADO COUNTY.

Placerville *Democrat*, Feb. 27th: We understand that a gravel deposit has been struck in Castle Hill about two miles east of Georgetown, which prospects well. There was a great deal of labor and money spent in prospecting this hill, in '54 and '55, but nothing of account was then found. Our informant tells us that two companies have now struck it, and from present indications, the deposit is quite extensive.

March 6th: The syenitic hills on the northern bank of Webber Creek, in the vicinity of Cold Springs and Gold Hill, are traversed by belts of dioritic porphyry, carrying narrow veins of auriferous quartz. These veins can be divided into two classes; those which contain native gold only, and those in which the gold is combined with various minerals. But little has been done towards developing the former; some indeed, as the American lead and the Grey Eagle, have yielded good quartz from the very surface, and one at least, the Columbus, has at one time been famous for its uncommon richness; but none, so far, has heen opened at a greater depth than about 40 to 60 ft. Among the veins belonging to the latter class, the most important occur a short distance from the line of junction of the granite and slate. On this vein two companies have made locations: Schleicher & Co., who have done just work enough to hold their claim and ascertain the presence of good ore; and the Hill Lead Mining Co., who have put up steam hoisting works as well as a 4-stamp battery, and sunk a shaft about 100 ft. deep. In the Hill Lead mine the width of the vein varies from 2 to 18 inches and will average one foot. The gangue matter consists essentially of quartz, diorite and carbonate of limo, with some carbonate of manganese. The ore is remarkable for its complexity. Native gold, which was abundant near the surface, soon disappeared, and now occurs as an exception only. The gold is found combined with iron pyrites and tellurium, while a great variety of minerals, as copper pyrites, galena, telluret of iron, etc., are accidentally met with in varying proportion. The ore, although rebellious, is rich; the first class paying not less than $200 per ton.

It is rumored that the U. S. Grant mine, on Brush Creek, has been sold to some Eastern parties. Parties have already negotiated for machinery to place on the mine, and have agreed to have the same completed within three months. The mine has been prospected to the depth of 59 ft., the rock from which worked in an arastra, yielded $30 per ton.

The Silicon mine, on Smith's Flat, has been sold to parties in San Francisco, who have made several shipments of the rock, recently, to the Bay.

A Frenchman and a German have discovered an exceedingly rich vein of gold-bearing quartz up at American Camp. The specimens they brought down to the city to day are very rich. It is somewhere near the U. S. Grant and the Star veins.

It is rumored that Andrew Roeco has bought the interest of Irwin Davis, in the Golden Rock Water Ditch.

KERN COUNTY.

Havilah *Courier*, March 2d: The well known McKeadney mill, has been clattering away since Thursday.

La Esperanza claim, in Kelsoe Valley, about five miles south of Sageland, worked by Birdseye, Carter and others, is turning out well. They have a 5-stamp battery, and last week retorted 138 ozs. after a run of 13 days. The claim promises to continue profitable.

MARIPOSA COUNTY.

Gazette, March 5th: It is reported that the Crown Lead Mining Co., near Coulterville, will commence operations again soon. At present the company are engaged in repairing roads and preparing to raise quartz, etc., for the purpose of getting this mining property under full operation.

The Washington quartz mill, situated near Hornitos, crushed, week before last, 40 tons of rock which yielded $1,400—for six days' run.

NEVADA COUNTY.

Transcript, March 2d: The North Bloomfield Gravel Mining Co. have located that portion of Cañon Creek, from a point below the Jefferson Quartz Mill to Bowman's ranch. The creek is located for the purpose of diverting the waters of said creek for mining purposes. The claim includes all the waters of the creek, and its tributaries above Jefferson mill.

Andrew & Co. have located and claim 1,500 feet on the extension of the West Idaho ledge, situated between Deer Creek and Slate Creek, in Grass Valley township.

March 5th: For some months past cement mining in Little York township has heen rather dull, but during all the time the claims of Brown Bros., near You Bet, havo heen yielding handsomely, and they are now turning out more dust than ever before. Taking into consideration the difference in cost of working, these claims beat White Pine.

During the past three weeks the Brown Bros. have taken out in the neighborhood of $17,000, the claims averaging over $6,000 per week. The last run of two and a half days yielded $2,700. The mill has since then heen stopped for repairs in the batteries, and will he ready to start up again on Monday next.

Neece and West, at Brown's Hill, near You Bet, have commenced work in their claims, after heing idle for six months, and they struck the channel last week, where they found excellent prospects. Some three years ago these parties opened upon a basin or hole which was then supposed to he the channel, and they took out a large amount of money, after which they ran out of pay, and pushed their tunnel ahead supposing that the channel went through the hill in a direct line to the Brown Bros. claims. Since they again commenced work the channel has been found, and it is ascertained that it takes a sharp bend around the hill, and that the hole or basin from which they got such good pay was formed by the short turn and eddy in the old river bed. They are now breasting out in the true channel, for the purpose of getting the cement ready for milling.

Gazette, March 2d: The Grass Valley correspondent writes: Among the new enterprises which promise success, I notice the Garden City mine, located above the old Gold Hill mill on Wolf Creek, and owned by a San Francisco Co. The ledge in this mine is about two feet in thickness, with beautiful walls, and shows some gold with heavy sulphurets. The miners are now engaged in raising the incline shaft to the surface. Gregory & Mansau, at Sebastopol Hill, are taking out some splendid rock, which good judges say will pay as high as $75 per ton. The ledge is not a very large one as yet, but has improved as the miners go down on it.

The "Young Pines" Co. think they have a good ledge, as it is an extension of the Wm. Penn Co's lead. Work will be resumed on the Young Pines claims sometime in the summer.

There has been but little said about the U. S. Grant, the Seven-Thirty, the Bowery or the Bay State ledge lately, because no crushings have heen made from either of them, on account of the roads heing too soft for hauling rock to the mills. All of these mines have lots of good looking ore on the surface, and will be enabled to crush within a week or two.

March 5th: A flume is now being constructed hy Leavitt & Co. from Deer creek, up Kelsey's ravine, to connect with the old flume across Pine and Commercial streets.

March 6th: Work is soon to be resumed on the Allison Ranch mine. One-half of the mine has been purchased by Erwin Davis.

Grass Valley *Union*, March 5th: Philip Day has started a quartz mill at Rough & Ready and is running it night and day on very satisfactory rock. His company is running into Bunker Hill, and it is thought that good rock will come out of the hill. The Rough & Ready mill has a battery of three stamps and an arasta.

Lndington & Co., hauled some rock from Grass Valley to the Rough & Ready mill and received a return of $40 per ton.

March 7th: Gregory & Mansau, of Sabastopol Hill, have had a crushing. Thirty tons of their rock yielded them the sum of $2,500. The ledge, as they go down on it, is improving in thickness as well as in appearance.

In the upper part of the county, about Graniteville, the miners are preparing for a brisk summers' work. A gentleman just from Eureka informs us that the snow is rapidly melting; only about two feet remaining now on the ground. Some of the opened mines have not stopped work during the winter, and when the snow goes off many new ledges will be prospected.

The gravel mines of Underwood & Co., near Union Hill have lately been paying very handsomely. The scarcity of water during the winter prevented work upon these claims, but now from $12 to $15 per day to the hand are realized.

Grass Valley *National*, March 5th: Luddington & Co., recently struck a stringer of this ledge, which is situated in Rhode Island Ravine, and took out three loads of rock from which they realized $125. The rock was crushed at the mill of Philip Day, at Rough & Ready.

March 6th: We saw last night at Findley's hank a bowlfull of gold worth over $2,500, the yield of 30 tons of rock from the ledge of Gregory & Co., near Osborne Hill.

Transcript, March 7th: The blue gravel mines, at Smartsville, are among the most valuable in the State, and the ground is held by three companies as follows: The Blue Gravel Mining Co., the Blue Point Mining Co., and the Smartsville Consolidated Hydraulic Co. For the past three or four years these companies have been engaged in litigation about their respective boundary lines, but all matters of dispute are finally settled, and the three companies have gone to work in earnest upon enterprises of great magnitude.

The Blue Gravel Co. have started upon their deep bed rock tunnel. They have been at work on this tunnel one year and expect to reach the channel in two more, when they will have a face 60 feet deeper than the claim has yet been worked. The Blue Point Co. have been running their tunnel three years, and expect to finish it in a year and a half. They have raised two shafts and are now working upon the tunnel in five places, to strike the channel at about the same depth as the Blue Gravel company.

The Smartsville Consolidated are washing off the top level, and have ground enough to last three or four years without running a bed rock tunnel.

From the channel at this point immense sums of money have heen taken out and the owners have become rich. When they are opened to the new levels the claims will be more valuable than ever before.

Grass Valley *National*, March 8th: John Calbert & Co. have located 900 feet on the Uncle John Co., commencing at the residence of John Calbert, on Missouri Hill, and running north 400 feet to Kelly's house and south 500 feet to the Allison Ranch stable.

The Hartory mine has been leased to a Company of about 25 men. The mine has been pumped out and work was commenced to-day taking out rock.

Work was resumed this morning on the Wisconsin mine. For a year or two, Dennis O'Keefe and others have been hard at work running a bed rock tunnel, above Nevada, in order to strike a gravel range. They were about giving up in despair, when last week they finally struck it rich. The gravel prospects from 25 cents to $3.75 to the pan, and from four car-loads they took out $67.

Frank Morse started the stamps at work this morning at his mill. He has a large quantity of good looking rock on hand, and the stamps will he kept busy.

Leavitt & Co. have been sluice mining for several days past in the ravine between Main and Broad streets. The same ground was worked over 19 or 20 years ago.

Gazette, March 5th: We noticed a fine specimen of copper ore at the Union Hotel, weighing about sixty pounds. It was recently brought up from the Well lead, near Spenceville. It is estimated to contain from 12 to 15 per cent. of copper.

PLACER COUNTY.

Auburn *Stars and Stripes*, March 4th: We are informed that a sale of one-fourth interest in the mine known as the Paragon, has just been made for $25,000. The claim is divided into four shares, and has paid in dividends within the last three years over $30,000 to the share. The tunnel is now 3,000 feet into the hill, and no signs of the claim paying less than heretofore.

SOLANO COUNTY.

The Vallejo *Recorder* has been shown specimens of cinnabar taken from the mine owned by John Brownlie, near that city, which, for richness, equals anything to be found in the New Almaden. The extent of the mine is not known.

SISKIYOU COUNTY.

Yreka *Union*, Feb. 27th: After giving a general history of quartz mining on Humbug Creek, the editor says: The Eliza and Accidental are both of good width and will supply an abundance of quartz. In the Knapp ledge the quartz is not so abundant, but is of better quality, yielding an average of $50 to the ton. Lash & Co. having prospected the Eliza and Accidental sufficiently to satisfy themselves of the quality and quantity of the quartz, intend to push operations on them with vigor, and we may confidently expect as the result,

an important addition to our gold yield from this source. During the past three or four years there has been also a San Francisco company operating on the Middle Fork. In 1865 they erected an arastra, driven by water-power, and have prospected their ledge very thoroughly, and are, we understand, perfectly satisfied with the result. More than a year ago they bought a mill to be erected on the claim, but owing to some want of harmony among the members of the company, the mill has never been shipped from San Francisco, and no work has been done on the ledge since. During the past few years still other parties have prospected considerably with more or less satisfactory results. A. M. Jones has erected an arastra at the Forks, with which he has been crushing rock obtained from up near the base of "Old Craggy." How much per ton his rock yields we have not been able to learn.

TUOLUMNE COUNTY.

Sonora *Democrat*, March 6th: Ryland & Parsons, of Kincaid's Flat, are doing well in the old Dobbinspeck ranch, mining it up. The claim is 15 feet deep, and will last 20 years. It pays from $5 to $6 per day to the hand. Five men are employed.

Knox & Boyle are building a fine 10-stamp mill at the foot of their claim, in Quartz Mountain. It will be completed about the 15th of April. They have two tunnels running into the mountain; one is about 400 feet, the other about 200, and are being pushed forward as fast as possible. This tunnel is 50 feet lower than the upper one. The rock averages $40 per ton. They have out now some 30 tons, and are still getting out more. When they get their mill in operation they will take out large sums of gold.

Heslep's claim, adjoining, is paying very well. Mr. H. wants to purchase a larger mill, his old rickety 8-stamp mill don't suit him.

App's claim, adjoining Heslep's, is also paying remarkably well. This claim has always been considered the best in the county. The mill, a 10-stamp one, is located on Wood's Creek, one mile from the claim. Mr. App intends to build a new mill upon the claim next fall. He has two engines in his mine hoisting rock and water. A tunnel pierces the mountain some 600 feet. The shaft from surface, is 350 feet deep, and from level of the tunnel 250 feet. The rock averages $14 per ton. Eight tons per day is crushed.

D. Kelly, of this city, has half a ton of rock from his vein on Fox Gulch, that is very rich. Streaks of gold run through every inch of the rock; it will pay $2,000 per ton. He has sunk a shaft some 60 feet deep. Mr. K. will send this half ton of rich rock to San Francisco, to have crushed.

Mr. Stage, Superintendent of the U. S. Grant vein, near American Camp, is pushing forward the completion of the mill and and hoisting works. Some 20 men are employed at present in the mine and building the mill.

J. B. Hiskey, of the Star mine, near the U. S. Grant, says that his company will soon start in again and get out rock. They have been running a tunnel for the past eight months, which will strike the vein some 400 feet lower than the old tunnel.

A party of gentlemen went down to La Grange, Stanislaus County, last Friday, to make arrangements about cutting a ditch to take water from their Columbia ditch into that place.

YUBA COUNTY.

Marysville *Appeal*, March 4th: We understand that the Pennsylvania mine is crushing fair rock, and that its future prospects were never more flattering. Owing to the depth of the main shaft the claim is troubled with water, and we understand that the Trustees have ordered a 12-inch pump, at an expense of $3,000.

E. Halphen, an old resident of Brown's Valley, called upon us yesterday and exhibited specimens of very rich quartz from the Howard Hill Mining Co., a mine located on Union Hill, two and a half miles south of Grass Valley. There is a 15-stamp mill crushing on this claim, and judging by the rock shown us the proprietors have a bright prospect for a fortune.

ARIZONA.

Prescott *Miner*, Feb. 20th: The White Picacho mine, near Wickenburg, in this county, is looming into importance. According to tests recently made of the ore, by Reese & Krause, of Wickenburg, for B. Hussey and P. Richardson, who design working the mine, it yields as follows to the ton:

By Fire Assay—gold, $87.20; silver, $18.95; total, $106.23. When smelted, it produced, lead 25 per cent.; silver, $16.90; gold, $78.28.

Prof. Hodges, of Boston, recently paid a visit to the Sacramento mining district, and was well pleased with the prospects.

BRITISH COLUMBIA.

The total export of coal from Nanaimo, British Columbia, during the months of January and February last, amounted to 3,834 tons.

IDAHO.

Boise *Democrat*, Feb. 20th: The Rising Star Mining Co's property, in Flint District, has been attached at the instance of Thomas Cole Jr. & Co., for about $54,000. This is but the result of mismanagement, as the mine has been paying very fairly.

The news from the Golden Chariot mine continues favorable. For the last eleven days they have run out an average of 15 tons per day, making an aggregate of 165 tons.

A correspondent of the Helena *Gazette* writes from Leesburg that the snow is about 18 inches deep in the basin, and from three to four feet on the divide between Leesburg and Salmon City. The citizens have quartz on the brain, growing out of the discovery of two ledges on Arnet's Creek, seven miles from Leesburg. James G. Viar discovered the Eureka, which is rich in fine gold. The other is called the Musgrove lodge, half a mile below the Eureka, and is also very rich in gold. Work is going on vigorously on these ledges.

MONTANA.

Helena *Post*, Feb. 19th: J. T. Harvey who has just returned from the Missoula mills, informs us that he is at work running a drift into the White Cloud lode, 16 miles from Fort Owen, and taking from it a species of decomposed quartz, which, run through arastras, yields very richly.

The Whitlatch Co. which suspended work last summer, have again resumed most active operations upon that mine at Unionville. A large force of miners have commenced cleaning out the shafts on the lead and getting everything in readiness for taking out rock in large quantities. It is the purpose of the company to have a mill at work upon this lead as soon as one can be erected.

We learn that the prospects of the Lindsey Mining Co. improve as the work progresses. For the last week two shifts of miners have been constantly at work on the shaft, which has been sunk to the depth of about 29 ft. It is calculated from the indications of the gravel in which they are now working, that they will strike bedrock in about six more feet, which will consume the greater part of this week. The water which accumulates in the shaft has decreased in volume, and at the present time, during stoppage of the pumps, the water reaches a point a foot below former water marks.

The splendid tunnel which has been in progress during the past winter, for the purpose of striking the McClellan lode, has at last struck it after running 200 ft., and is being run through the quartz comprising the ledge. There is no doubt but that this is one of the richest lodes in the country. A mill is all ready to be put up upon this lead, and will be erected the moment the season will permit.

The Virginia *Democrat* says: Morris' Creek, situated a few miles from Rochester, in Deer Lodge County, is being rapidly developed. The lodes of the district are silver producing, and are said to be very rich. It is said that a large number of the owners of lodes are at work upon their property with the greatest hopes of success.

A new lead has been discovered at Sterling which is said to be richer than anything ever before discovered in that section.

NEVADA.

HUMBOLDT.

Unionville *Register*, Feb. 27th: The Alpha mine, situated in Butte cañon, on the west side of the Humboldt range, about six miles from Unionville and three from the Central Pacific Railroad, ranks high among the first-class mines of this State. The vein is at present 12 feet wide in the shaft, now 130 feet deep. A tunnel is being run on the vein, following its course, and will intersect the shaft at a depth from the surface of 220 feet. The vein in the tunnel is 13 feet wide and the ore of a superior quality. Arrangements are being made by the owners to ship the ore by railroad to the Desert mill, at the lower or west side of Humboldt Lake. A graded road to facilitate hauling ore is almost completed to the railroad switch.

Mr. Smart, who returned from Elko a few days ago, informs us that Frank Dorman is shipping ore, by railroad, to the Truckee, from a mine in Panther cañon.

The mines in Gold Run district continue to "pan out" regularly. T. G. Negus shipped from the Golconda mine in that district, on the 21st instant, by the Pacific Union Express, two bars of bullion, valued at $1,500; and Holt & Elzy one bar valued at $800.

REESE RIVER.

Austin *Reveille*, March 4th: Arrangements are now in progress, and there is every reason to believe will soon be completed, by which the fine and extensive property of the United Reese River Mining Co., will be work systematically and extensively. The company own a large number of veins in this district, which they have allowed to remain idle up to the present time.

Belmont *Champion*, Feb. 27th: A correspondent, writing from Hot Creek, after alluding to the White Pine exodus, says: But the most of us are remaining on the merits of the district as a mining camp, knowing as we old residents well do, that we have many a ledge in the foothills, as well as immensely rich chimneys or pockets on our limestone mountains, many of which, I have no doubt, will prove permanent veins. We have one positive mine in particular, the locators of which, owing to financial difficulties, have been obliged to suspend work for the last two or three months—a fine chance for capital to step in and get a valuable piece of mining property at a comparatively low figure. There are many claims partly developed which could be bought cheap for cash, that would return to capital the fattest of dividends. Van Gillet has located and opened a new vein of some 20 inches in thickness, which bids fair to rival the best. This district, so far, has been unfortunate. Capital has done nothing for us; the companies that have been represented here, it is well known, have kept their money at home—apparently expecting to open mines without disbursements. Whenever we have live capital invested, with efficient management then will our section render up its hidden treasures to the satisfaction of all parties interested.

The Montezuma mill, better known as Dean's mill, situated in the lower part of Belmont Cañon, is daily hammering away on ore from the Galvin mine, situated on Arizona Hill, with fine results. This mill, with a capacity of four stamps of 180 lbs. each, is doing bravely for one of its size.

During the past week there was shipped by the Belmont Silver Mining Co. to the First National Bank of Austin five bars of bullion, weighing 355 lbs., valued at $4,214.85.

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

Virginia *Enterprise*, March 2d: Yesterday morning the lower tunnel of the Occidental tapped a vein of about 15 inches of water. The tunnel is being run on the west side of the lead and the water comes in at the bottom and from the east side of the tunnel. The striking of this water is considered a very favorable indication.

The Bacon Mill, Silver City, started up last evening on Hale & Norcross ore. The mill contains 20 stamps, eight Wheeler, eight Knox and two Hepburn pans, and is capable of working 40 tons of ore per day.

The Alpha Co. yesterday struck a small vein of very fine ore in drifting toward their ledge. The vein found is on the west side of the main lead, It is expected that the main vein and good ore will be reached in about six days.

The Ione mill, Lower Gold Hill, has recently been purchased by the proprietors of the Twin mine, Silver City, who will start the same into operation to-day or tomorrow on ore from their mine.

The experts are looking for ore in the Imperial in about ten days.

March 3d: Wells, Fargo & Co. shipped from their Gold Hill office during the month of February, bullion amounting to $229,251 55.

March 4th: Some excellent ore has been found in the west vein of the Justice and Independent mine at the 260-foot level. Assays running as high as $300 have been obtained from it. The old caved drift at the 350-foot level has been cleared out and retimbered. It was found to run northward from the shaft a distance of 150 feet. At the north end some very promising ore has been found. The lead at this point is said to very much resemble the Comstock in the lower level of the Hale & Norcross.

The Sierra Nevada mill is running to its full capacity (20 stamps) on ore from the company's mine. Of late they have found a deposit of ore much superior to that which they have been crushing during the time this mill has been in operation.

A dispatch dated Virginia City, March 4th, says Wells, Fargo & Co. shipped, last night, 39 bars of bullion, weighing 2,760 pounds, and valued at $73,233.59.

Much anxiety is felt over the result of operations in the Hale & Norcross, and strong hopes are entertained that a good body of ore will be struck soon, in the lower level.

WHITE PINE.

Our exchanges from this district have not come to hand this week, yet we believe that nothing of a startling character, further than has already been published, has been developed, and indeed we cannot expect any new and reliable information until the ground has been cleared of snow and a chance has been given to more thoroughly prospect and develop the mines, which, according to some, will be within a month, but others postpone the bright day until the month of June.

Virginia *Enterprise*, March 3d: Many persons are still leaving this part of the State for White Pine. The pleasant weather which has of late prevailed, has kept the fever raging, when it would otherwise have subsided till spring. Most of those leaving at present, are going out on "general principles." Having neither mines or town lots in the new region—they expect to make fortunes in some way at present unknown to themselves and everybody else

The Robinson district, some 30 miles east of White Pine, is said to contain some very large and valuable leads. A party of gentlemen interested in the district leave this city to-day to look after locations made for them there. The assays of the principal leads discovered run from $80 to $275. There is said to be plenty of wood and water in the district, and the country rock is similar to that at White Pine, being limestone and granite.

Austin *Reveille*, Feb. 27th: We were informed to-day that bullion amounting to $30,421 99, was shipped by the agency of the First National Bank of Nevada, at Treasure City, White Pine, to Elko and thence overland to New York city, on the 24th and 25th instant.

March 1st: The stage from White Pine, which arrived here this morning, brought eight bars of bullion, weighing 673 pounds, which were consigned to the Bank of California and forwarded by Wells, Fargo & Co's Express.

UTAH.

Salt Lake *Reporter*, March 3d: We have been shown by a gentleman an assay of ore from a mine within 40 miles of Salt Lake City, which has heretofore been worked merely for lead and silver. The assay was made at the office of Rein, Heunire & Co., San Francisco, with the following results: 18.20 oz. of silver, at $1.30 per oz., $23.69; 48.60 oz. of gold at $20.67 per oz., $1,004.51. 66.82 oz. per ton of 2,000 pounds, rating at $1,026.25.

JAPAN.—The editor of the Virginia *Enterprise* has been shown a letter from Yokohama, Japan, from which the following extracts are taken: I am convinced that these islands contain as rich gold and silver mines as any in the world. The heretofore exclusive policy of the Government has prevented the proper development of the mines—besides, the people until now entertained the opinion that it was criminal to extract more ore than was required for immediate and necessary use, and that a great sin would be committed in case no ore was left for future generations. Oh, for a dozen or so Washoe prospectors! Yet there are some Japanese, not having the fear of their gods before them, who have smuggled to this place enough gold and silver ore to fill 13 large warehouses. Different and more liberal ideas are now prevailing with the party at present in power. The rebellion between the Northern and Southern parties still continues. The party now in power is entitled to the ownership of the mines, and being in need of money to carry on the war, has for the first time invited foreign miners to act as superintendents, on large salaries, in order to extract as much bullion as possible in a short space of time.

THIRTEEN AND A HALF CENTURIES AGO.—A curious discovery, kept secret for fourteen years, has just come to light at Ravenna. The workmen engaged in digging a canal near the present railroad station, in 1854, found a skeleton with a breastplate of fine gold buried face downward. The precious piece of armor, which weighed six pounds, was broken up and the pieces secretly sold to jewelers. Two larger pieces, which appear to have been the shoulder bands, and are covered with chasing and enamel, have been given up by a jeweler in Faenza, but the remainders are probably lost. It is known that Theodoric buried the body of Odoacer, after his murder at Ravenna, face downward; and the Italian antiquarians suppose that this golden harness is really that of the first King of Italy. The conquest of Italy by Theodoric, the Goth, took place about the year 500.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, March 13, 1869.

Notices to Correspondents.

WASHOE.—Water can penetrate not only through fissures, crevices, and planes of stratification, but also through the mass of rocks. It is necessary to distinguish the penetration of water through capillary interstices between crystalliue or amorpbous minerals and rocky matrices, from actual penetration into miuerals themselves. The larger the last named are, for example coarse-grained granites, syenites, trachytes, conglomerates, etc., the more readily does water penetrate into their capillary interstices. Very fine-grained sedimentary rocks, similar to those known as elay slates, are readily permeated with water in the direction of the planes of stratification, but witb great difficulty in a direction at right angles to such planes. Water when absorbed by crystalline minerals follows the direction of tbe cleavage planes. In shafts and mines it can readily be seen whether a rock is readily penetrable by water or not. The greater the obstacles presented by water in mining operations, the greater the penetrability of tbe strata to aqneous influences may be inferred. In agate quarries in the Amygdaloid rocks of Oberstein, the roof is always wet, water dropping from all parts. A quick and tolerably simple method of determining the greater or less porosity of rock, is to place it in very dilute sulphuric acid in the vacuum of an air-pump. By this means, the air in the pores of the rock is removed, and on the restoration of the atmospheric pressure, the vacaut pores are refilled by the acid. If the piece experimented on be now broken and washed, the presence of acid may be tested by litmus paper.

CALABRIA.—"Apennine," as applied to the monntain chain that traverses Italy, with many spurs diverging from it both in easterly and westerly directions, is derived neither from the Greek nor Latin languages, but from a much more ancient one, the Celtic, which language, at a remote period, pervaded Enrope, and probably Asia also. "Alp" and "Pen," in the Celtic language, both mean high, or lofty. It has generally been asserted that the word Albion bas its derivation from the Latin word *album*, white, from the white chalk cliffs of the soutbern coast of Britain. The probability is asserted that Albion may be derived from tbe word Alp, or high, as additional examples of which may be mentioned the Clan Alpin, of Scott's Lady of the Lake, and the Alpeens or long sticks of the Kilkeuny, Tipperary and Waterford boys, which they know well how to use in a "scrimmage—alpeeus being longer than a cudgel, shillelagh or walking-stick. The Alpenstock of Swiss guides and mountain climbers is derived from the same root as the term alps itself. Pen, for a mountain, is generally used in Wales as Penmanmaur, and in Cornwall, Penrose, Pendonnis, Penzauce, and a long list of pens could be adduced. In Scotand, Pen has been changed into Ben, as Ben Lomond, Ben More, Ben Cruachan, Ben Lawun, Ben Nevis, Ben Mac Dhui, etc.

Strength and Economy of Hydraulic Pipe.

Amongst the important new developments that have been made in mining since the era of the discovery of gold on the Pacific coast, some engineering questions involved in hydraulic mining are interesting, and worthy of a much more special attention than has been paid to tbem. Of the greatest, and most geueral importance to miners and engineers, are the data that have grown out of trial and practice in the use of iron hydraulic pipes, touching their dimensions, weight, streugth and cost. At the same time we may mention, in this connection, that there are other engineering problems of very great practical and economical importance to gravel miners, which are only partially developed, or but locally applicable, and whieh have not been duly cousidered in publieations on the subjcct.

In the construction of iron pipe, orders are usually given to one or another of the fonudries in this city, for plate or sheet iron pipes to contain a certain volume of water, at a certain head, under conditious of slope and distance applying to the particular mine in which the orderiug party is interested. As the price is in proportion to the amount of metal used, miners have not been slow in discovering the limits between the greatest practicable reduction in weight and strengtb, and the economy and durability of pipe under specified heads of pressure; and colossal experiments were thus inaugurated and carried quietly to a successful issue, by persons generally who interested themselves not in the least in the capacity of sheet iron pipe to resist pressure, further than that it concerned the production of gold in their particular mine.

Amongst the foundrymen in this city certain rules have heen establisbed on this subject, which may be accepted as the law, being generally followed by miners in ordering hydraulic pipe. The best approximation that we are able at present to make to a rule of this kind is that, in the case of 11-inch pipe, for example, one-sixteenth inch iron, (called "No. 16 iron",)—withstanding half a pound of pressure to the square inch for each foot in hight—will bear a head of 250 feet perpendicular. Were the pipe inclined along the surface of a bank a slight variation due to friction would admit of increased head with safety. The pressure on the pipe laterally will in every case be equivalent to that which wonld give to the water a certain velocity.

In figuring it down to the "lowest notcb," and taking the chances in thin pipe, we might mention a number of hydraulic miners whose experiences would be worth noting. Mr. W. D. Clark, a ditch owner at Railroad Flat in Calaveras County, some years ago purchased at 40 to 50 cents per foot, or less, large lots of corrugated iron intended for bouses, and unsalable for tbat purpose at the time in the market, the same being 1-20th and 1-24th of an inch in thickness; rolled it out, and constructed pipe seven inches in diameter, which stood a pressure of 250 feet perpendicular. Mr. Chabot, of the Oakland Water Works, has also made and brought into use a considerable quantity of very light pipe.

But the most exteusive, systematic and thorough tests yet made of the strengtb of thin pipe material under a great head, took place about a year ago in connection with the water supply of this city under the auspices of the Spring Valley Water Co.; Messrs. Moore and Cummings, of the Risdon Iron Works, having the matter specially in charge. The results arrived at were immediately put into practice in the construction and laying of the 30-inch pipe which is now supplying tbis city with water—a length of seven miles. The greatest pressure at any poiut in that distauce is 300 feet perpendicular, and the iron made use of there, in accordance with the tests previously made, is No. 9, or one-ninth inch cast iron. At a great many places there is a pressure of near 200 feet, at which either No. 9 or No. 11 irou is used. No. 11 iron is used to withstand the pressure at 100 feet head, and No. 14 at 60 feet. The latter, bowever, withstood, in the tests that were made, a pressure of 140 pounds to tbe square inch, equal to about 300 feet head; the tests being made in the yard of the Risdon Works with an ordinary hydraulic apparatus, and allowed for at the rate of one pound to two and three-tenths feet head.

In hydraulic mining the most common description of pipe is from 12 to 14 inches in diameter, and of No. 14 iron (1-14th of an inch in thickness) the same withstanding from 100 to 300 feet head; the highest pressure in use that we are aware of, being 400 feet, though we are unable to state what weight of iron was used in that case.

Recently wrought iron pipes have been brought into use to some extent in the Spriug Valley Water conduits. It is estimated that one-sixteenth inch wrought iron pipe affords the same resisting power as a $\frac{3}{8}$ inch of cast iron material, or that the former is six times the strength of the latter. But as wrought irou costs much more than cast iron for the same weight, the point bas not beeu proven, thus far, that wrought irou is any cheaper than cast iron. Some tabular data on this subject are found in "Molseworth's Mechanics Companion."

Back Again.

It is with pleasure that the senior Editor once more greets the readers of the PRESS, after an absence of some six months in the Atlantic States. The fact that the trip was undertaken for the benefit of his health, which had become seriously impaired from long continued editorial labors, is his only apology for silence during so long an abseuce. Had circumstances been different, it would have given him much pleasure to have drawn from his notes of travel many facts which would doubtless have proved interesting and possibly instructive to our readers. It is with much pleasure, however, that we are able to refer with confidence to the satisfactory manner in which the editorial chair has been filled during our absence, and our readers will doubtless share witb us in the additional satisfaction that they are not, for the present at least, to be deprived of the pleasure and instructiou to be derived from the facile and ahle pen of our late *pro tem.*

At no former period in the history of industrial progress, has there been so much apparent need, or so marked a desire for the acquirement of practical knowledge as is witnessed at the present day; and in no department of kuowledge is this necessity so strongly felt as in those branches involving tbe application of chemistry to the arts and sciences, and to industry. The oue most important industrial specialty to residents on this coast, is that of metallurgy. This is one, the general importance of which, has recently stimulated to a high degree the minds of scholars and thinkers of all countries, and the result has been large additions to our stock of metallurgical knowledge, and greatly increased facilities for pushing difficult metallurgical operations to more successful and economical issues.

Nothwithstanding the important progress already made, we bave good reason to hope, in the immediate future, even more than has been accomplished in the recent past. Fully impressed with this opinion, we shall endeavor to make the MINING AND SCIENTIFIC PRESS in future, a still better exponent of progress in this direction.

The difficulties involved in many of the questions now brought forward in connection with mining and metallurgical operations seem to require, in carrying out the above idea, that we should associate upon our editorial staff one who, by recent personal inspection and foreign study, has become thoroughly informed with regard to tbe latest advances in this direction in European practice and in the European schools. To this end we have secured the continued advantage of the assistance above alluded to. With such assistance, added to our numerous valuable scientific contributors, we have no hesitation in promising that we shall hereafter be able to make the PRESS of far more practical value than heretofore—that we shall be able to keep our readers fully posted in every important industrial improvement, and bring tbem into direct and easy acquaintance with the most advanced truths of science.

The Paris Exposition Reports.

It will no doubt be a matter of cousiderable interest to most of our readers to learn that active measures are in progress to spread before the public a full and comprehensive report of the late Paris Universal Exposition. The work necessarily attendant upon the production of such a report, is much greater than would be supposed by persons unacquainted with labors of this kind; in fact, in this instance, it has greatly exceeded the anticipations of the Commission which was appointed for its accomplishment.

The special reports from the different commissioners have all, we believe, been some time since handed in to the Secretary of State; but it has been found necessary in order to obtain from such a diversity of material and writers, a unity of expression and purpose, to submit the whole mass to the supervising eye of one individual. Our California readers will doubtless be pleased to learn that this supervising labor has been intrusted to the Commissioner from this State—Professor William P. Blake. This labor was undertaken at the request of the State Department, and is now in a most satisfactory state of forwardness.

The reports cover a wide range of subjects, some of them constituting exhaustive treatises upon their respective branches of industry. The prominent authors are: Professor Barnard, of Columbia College; Professor Morse, Professor J. Lawrence Smith, of Louisville, Ky.; Commissioner General N. M. Beckwith, Mr. A. S. Hewitt, C. B. Norton, of New York, and Mr. E. R. Mudge, of Mass. Professor Blake, of this State, is the author of one of the most important of these reports—that on the Precious Metals, which is extended to a volume of nearly 400 pages.

The series of reports is prefaced with a "General Survey of the Exhibition; with a report on the Character and Condition of the United States Section." This volume has been prepared by a special committee, consisting of Messrs. Seymour, Evans, and Aubincloss, assisted by Commissioner Beckwith and Professor Blake. The entire series, with the accompanying illustrations, will form five or six large volumes of from five to six hundred pages each. About fifteen hundred pages were already through the press, but not yet bound, at the time of our visit to Washington, the last week in January, and comprised the following special reports:

The "General Survey of the Exhibition," already alluded to; Report on the Precious Metals, by Professor Blake; the Production of Iron and Steel, by A. S. Hewitt; Wool and Manufactures of Wool, by E. R. Mudge; Munitions of War, by C. B. Norton and W. J. Valentine; Silk and Silk Manufactures, by E. C. Cowdin; on the Fabricatiou and Use of Béton-Coignet (artificial stone), by L. F. Beckwith; on the Fine Arts, by Frank Leslie; on Instruments and Apparatus of Medicine, by T. W. Evans. These pages, a set of which was kindly placed in our possession, constitute about one-half of the entire series. They are beautifully printed, on very superior paper; while the style of execution and the arrangement of the details of the pub-

lication reflect the highest credit upon the Editor, Professor Blake, and the Congressional printing office.

These reports do not present the usual slovenly and cheap appearance, which is observed in ordinary public documents. They are printed on new type, with profuse and well-executed illustrations; and it is gratifying to find in their appearance, that public documents can be made to assume an interesting dress. It is in every way fitting that this official report of one of the most important industrial events of the 19th century, should thus be presented to the country and to the world, in a manner and form every way worthy of careful study and permanent preservation.

Dry Barrel Amalgamation.

Reference was made in our last issue to a dry barrel amalgamation process which, we stated, had been under experimental and working test at the Miners' Foundry during several months past, in the hands of the inventor, Mr. Almaria B. Paul.

Previous to the extended series of experiments above referred to, this process has been in operation for some time at the Kearsarge mill, in Inyo County, where it seems to have originated. Mr. Paul's claims in favor of the success, and of the great value of this process, are sufficiently definite, and sustained by assays and documentary testimony, to enable us to present a tangible statement in regard to it for the information of metallurgists, so far as the results are concerned. A patent having been applied for, and the papers not yet returned, we are restricted to an outward description; the chemical reagents used in connection with the dry ore and quicksilver in the revolving iron barrel being for the present withheld. But as the inventor himself does not pretend to explain the chemical action in its details—claiming only that the results are remarkably favorable, and that friction electricity has something to do with the matter—it may be as well to ignore theory for the present, and to attempt merely to state the facts.

The patent is named the "Paul & Wood Electric Process," the patentees being A. B. Paul, the introducer of the present Washoe pan process, and I. L. Wood. We have taken from Mr. Paul's statement the following notes: The process was first brought into practical operation six months ago on the base silver ores of Kearsage District, and has been at work privately in this city for four months. It embodies in its results, says Mr. Paul, the Patio, Freiberg barrel, and Washoe pan processes. Its remarkable feature is that all ores containing lead, copper, antimony, and iron with the precious metals, may be cheaply and successfully amalgamated, and in such a manner that only gold and silver are taken up by the mercury. The latter point is claimed to be substantiated beyond all question. California gold ores are said to yield their metals at a percentage never before attained in any other manner. The machinery consists of a plain hollow iron barrel, set in brickwork, so as to revolve over a fire bed. The ore is very thoroughly pulverized and introduced dry, with certain chemicals not specified; the barrel is set revolving and at the same time the fire is kindled, heating up the ore to a degree such as certainly to expel all atmospheric dampness. The effect of this, according to the inventor, is to create electrical conditions in the ore which, in some way unexplained, operate advantageously. The evidence of the existence of such electrical condition does not appear to be anything more positive than that the ore clings to the periphery of the iron cylinder, and has the appearance of a body of magnetic particles clinging to a magnet. Mercury is now introduced, and the fire withdrawn; as the barrel revolves amalgamation goes on rapidly. Two hours completes most ores, though four hours is sometimes necessary. Before introducing mercury the heat must be allowed to subside so far as to avoid all volatilization of the mercury. The amalgamation being completed, the ore is discharged in the shape of a mass of ore intimately mixed and combined with mercury into a Steven's Galvanic Settler—a tub with a copper bottom and floating zinc lid containing acidulated water, constituting the simple elements of a galvanic battery. The negative pole being at the bottom, the precious metals are precipitated, and run off as usual. It is claimed that in this way mercury is less liable to be lost, notwithstanding its intimate admixture with large quantities of barren ore or gangue, than in ordinary wet amalgamation.

The circumstance alleged of amalgamating only the gold and silver in ores combined with such troublesome substances as lead, copper and antimony, is ascribed by Mr. Paul to the development of some new principle, the nature of which will be more fully dwelt upon hereafter.

The machinery certainly is simple and inexpensive enough. Cylinders may be made to contain from fifty pounds to five tons; cage brush will make all the fire that is necessary; and little water is required for the settling, which may be used over and over again; a fact which would render this process applicable to many localities where reduction has been heretofore impracticable.

A large number of certificates of the result of workings by this process, in comparison with ordinary wet amalgamation, have accumulated in the inventor's hands from which we select the following:

Mr. T. B. Wingard, Secretary of the Kearsarge Gold and Silver Mining Company, Inyo County, states that in consequence of the ores of that company being so thoroughly impregnated with lead, antimony, and other rebellious substances, they have not been able to get out over $123 to the ton by pan working, and the bullion went down to forty-seven cents to the ounce; while by this process the same ore was worked up to $314 to the ton, and the bullion brought out was .962 fine, or $1.91 to the ounce, of which $1.21 was silver, and 70 cents gold; chemically pure silver being $1.29 to the ounce.

Mr. Henry R. Reed, Superintendent of the Cordillera Mining Company, Chihuahua, Mexico, testifies that the moderately rebellious ores of that district worked up to $780 per ton by ordinary pan amalgamation, and to $867.40 by the present process.

Nathaniel Page, of the Quartz Mountain mine, Mariposa County, states that some auriferous pyrites from that mine were worked by the Plattner chlorination, and also by the present process; resulting in favor of the latter by the difference of the silver contained in the ore, which is lost in Plattner's chlorination; amounting to $4 or $5 to the ton.

Mr. N. O. Noyes, of the Chase mine, Arizona, containing gold sulphurets with some galena, states that he could not obtain $10 a ton by mill working, while this process paid him $37.74, the ore assaying $44.86,—nearly all gold.

We are informed by Mr. Paul that three different parties, who have thoroughly and practically tested this process, have ordered the necessary apparatus at the Miners' Foundry, viz': Mr. Chapin, of Silver City, Nevada; Mr. Noyes, of Prescott, Arizona; and the Silver Sprout Company, Inyo County.

MECHANICS' INSTITUTE.—The last monthly meeting of the San Francisco Mechanics' Institute, was more than usually important on account of the installation of the new officers, and of various propositions considered. Mr. Hallidie, the outgoing, and also the incoming President, read his annual address, in which he alluded to the rapid advance of the mechanic arts, and mentioned especially the proposals to establish a Polytechnic Institution, in connection with the Institute, which subject is in the hands of a committee. The Institute, he said, was steadily and surely progressing. It now numbers 1,399 members, has a library of 12,431 volumes, and property worth $140,854. Mr. Brittan advocated a re-incorporation of the Institute, and in the course of his remarks favored the removing of all entrance fees to the library. His motion to direct the officers to take the necessary steps to re-incorporate, was carried.

RECEIVED.—We have received "Lower California, its Geography and Characteristics, with a sketch of the Grant and Purposes of the Lower California Co., 8vo. pp. 44. Also a copy of the Transactions of the California State Agricultural Society, from the late Secretary, Mr. I. N. Hoag, containing amongst other valuable matter, the report of Wm. P Blake on California productions, etc., at the Paris Exposition."

ANNUAL REPORT OF THE HALE & NORCROSS.—We have received the eighth annual report of this prominent mining company, embracing the statements of George S. Mann, President, C. C. Thomas, Superintendent, and Joel F. Lightner, Secretary, with an ore table showing the entire product of the mine. The cost of reduction is given at only $13.09½ per ton.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

New Job Printing Office.

In order to devote our attention more exclusively to the publication of our paper, and the business of our American and Foreign Patent Agency, we have disposed of the presses and job printing material, and fixtures, in our office—with the entire future good will and patronage of our Job PRINTING OFFICE,—to George Spaulding and Harrison Barto. Messrs. Spaulding & Barto will continue the operation of the same, in our office, 414 Clay street, under the title of "The Mining and Scientific Press Job Printing Office."

Both of these gentlemen are practical printers of good attainments and enviable reputation. They have been long engaged in this office, and it is with pleasure that we can recommend them to the favor and patronage of all our old customers in the line of Job Printing.

A. T. DEWEY.
W. B. EWER.

P. S.—This change relates to our job printing department alone, our patent agency and newspaper business remaining as before.

DEWEY & Co.,
Mining and Scientific Press Office, 414 Clay street.
MARCH 1, 1866.

CALIFORNIA PROTECTIVE ASSOCIATION.—One of the noteworthy features of a progressive civilization consists in the large and increasing number of associations organized for the relief, protection, or to advance the interests of their members, respectively, embracing all classes of the community, and nearly every branch of industrial pursuit. The attention of our readers is specially called to the prospectus of the above mentioned association, which appears in full in our advertising columns. As this form of insurance is comparatively new, and different in some respects from most life plans, it is worthy of examination, and possesses some attractions not presented by the latter. The objects, advantages, and general management of the association, are so fully set forth as to obviate the necessity of an extended notice. ***

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

O. M TAYLOR, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office, without fail.

PHOTOGRAPHY.—FOR CABINET PHOTOGRAPHS, or Enameled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
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At this season, when coughs and colds are so prevalent, an effectual remedy, and one easily obtained, is Perry Davis' Vegetable Pain Killer. It is no new nostrum, vended by unknown agents, but has stood the test of over twenty years, and those who use the article, internally or externally, will connect with it grateful recollections of its worthy inventor.—*Hastings' Chronicle, C. W.*

PAIN KILLER.—The testimonials borne to the efficacy of this valuable medicine are sufficient to warrant its introduction in every house. Our own opinion is that no family should be without a bottle of it for a single hour. In flesh wounds, aches, pains, sores, etc., it is the most effectual remedy we know of. A bottle will last for a very long time, and its low price places it within the reach of all.—*St John News.*

☞We are glad to learn that the "Pain Killer" is having so large a sale in our city. We have every reason to believe it to be an almost never failing cure for pain, and a medicine that no family should be without.—*Montreal Pilot.*

The Pain Killer is sold by all Druggists and dealers in Family Medicines.
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PAUL & WOOD ELECTRIC PROCESS,
And which has been so fully tested as to be worthy of your consideration, I now invite it, relying only on the precious metals produced, cheapness and simplicity of machinery, to gain favor for it.

Parties having mines containing a high percentage of gold and silver, but which cannot be obtained, on account of fineness, or rebellious character of the ore, will do well to investigate. Attention given to communications.

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408 California st., or Miners' Foundry,
11v18-1m San Francisco.

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—OF—
THE SALT POINT
SILVER MINING COMPANY.

This mine is situated on the western slope of Treasure Hill, about half a mile from Treasure City.

It is admirably located for working purposes, being on the hillside, at an elevation of six hundred feet above the flat or "swale" through which the road to Shermantown passes. The road is on an easy grade, about one mile from Shermantown, where the principal mills are located. The flat in front of the mine affords ample room for the dumping and piling up of milling ore.

The mine is surrounded by fine groves of trees of a large growth; the wood of which for fuel can be purchased at $8 per cord, and at a corresponding rate for timber for mining purposes.

The ledge lies favorably for working by a tunnel or cut, it is well defined, and apparently from ten to twelve feet in width. Assays of the rock are remarkably uniform in character, ranging from $380 to $385 per ton.

Work is now being done upon the mine, and it is believed that the sale of One Thousand Shares of Full Paid Stock at $2 50 per share will give all the working capital necessary for its development. The Company are now working the mine, through a shaft from fifteen to twenty feet in depth, and, so far as developed, the mine shows itself to be one of the richest and most extensive in this wonderfully rich District. Within a few days the owners have been offered for the whole mine $ 0,000, but prefer to sell a portion for working capital at a lesser rate.

Subscriptions received at the office of the Company, No. 211 California street.

E. J. WEEKS, President.
O. OICKINSON, Jr., Treasurer.
11v18-2w T. A. MUDGE, Secretary.

To Mining Secretaries.
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Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

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Agents for F. S. Perkins' Engine Lathes, Planers, Upright Drills.

And all kinds of MACHINISTS' TOOLS; also the Davis Wood Planer and Mitre Bove-Falling Machines.

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10v18qr

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address NEWEY & CO., Mining and Scientific Press office, San Francisco.

SCIENCE AND ART GO HAND IN HAND.—The following is from a new work entitled "How Crops Grow," by S. W. Johnson, Professor of Agricultural Chemistry in the Sheffield Scientific School, Yale College:

"Strictly considered, the art and science of agriculture are of equal age, and have grown together from the earliest times. Those who first cultivated the soil by digging, planting, manuring and irrigating, had their sufficient reason for every step. In all cases, thought goes before work, and the intelligent workman always has a theory upon which his practice is planned. No farm was ever conducted without physiology, chemistry and physics, any more than an aqueduct or a railway was ever built without mathematics and mechanics. Every successful farmer is, to some extent a scientific man. Let him throw away the knowledge of facts and the knowledge of principles which constitute his science, and he has lost the elements of his success. The farmer without his reasons, his theory, his science, can have no plan; and these wanting, agriculture would be as complete a failure with him as it would be with a man of mere science, destitute of manual, financial and executive skill." * * * * "It is the boast of some who affect to glory in the sufficiency of practice and decry theory, that the former is based upon experience, which is the only safe guide. This is a one-sided view of the matter. Theory is also based upon experience, if it be truly scientific. The vagarizing of an ignorant and undisciplined mind is not theory. Theory in the good and proper sense, is always a deduction from facts, the best deduction of which the stock of facts in our possession admits. It is the interpretation of facts. It is the expression of the ideas which facts awaken when submitted to a fertile imagination and well balanced judgment. A scientific theory is intended for the nearest possible approach to the truth. Theory is confessedly imperfect, because our knowledge of facts is incomplete, our mental insight weak and our judgment fallible. But the scientific theory which is formed by the contributions of a multitude of earnest thinkers and workers, among whom are likely to be the most gifted intellects and most skillful hands, is, in these days, to a great extent worthy of the divine truth in nature, of which it is the completest human conception and expression."

DECADES.—It is a curious fact, says the *Times*, that gold was discovered in California in 1848, and the rush to the Pacific coast took place in 1849. Silver was discovered at Washoe in 1858, and the immigration thither commenced in 1859. The fabulous treasures of White Pine were discovered in 1868, and during this year of 1869, a prodigious human tide will set toward the new Silverado from both sides of the continent. The movements of the car of progress seem to be by decades. That of 1878 and 1879 will probably be the absorption of the Spanish American republics down as far as Panama; provided circumstances shall not have precipitated the event before the coming decade is half over.

DIFFERENCE BETWEEN DISINFECTANTS AND ANTISEPTICS.—The antiseptics, such as corrosive sublimate, arsenical acids, carbolic acid, etc., act, as such, by destroying all sources of decay and decomposition; that is to say, they destroy or prevent the formation of the *germs* of putrefaction and fermentation, without acting on the mineral or vegetable matters present; while disinfectants operate either by oxydizing the gaseous products given off by putrefaction, as in the case with permanganate of potash, or by removing their hydrogen, as is the case with chlorine.—*Medical Investigator.*

MACHINE POWER AND LABOR.—The machine power of England and Wales is competent to perform the labor of nearly six hundred million of men, and is probably greater in productive capacity than the labor power of all the world beside. The machine power of the United States, though growing with amazing rapidity, does not more than equal the labor power of two hundred millions of men.

SALT LAKE PERMANENTLY RISING.—It is stated that explorations made by General Conner on Salt Lake, in his new steamer, prove that the water has risen thirteen feet since the first surveys, and is rising now one foot per year. The boat ran for a mile in one place over what was grazing land five years ago. It is thought that perhaps the subterranean outlet has been partially choked up.

COLORED FLAMES PRODUCED BY ALKALINE SALTS.—Tobacco contains nitrate of potash. If a cigar be lighted at or near the edge of a flame of a common bat-wing gas burner a beautiful violet tinge will be imparted to the flame. The violet color is the characteristic color of the heated vapor of potassium salts. Soda imparts to the flame a rich yellow tint. Very minute quantities of these metals can be detected thus; but the flame ought to be as free as possible from the vapors of other substances, as the presence of more than one may easily obscure, or at least modify the tint of the flame, so as to prevent the success of the experiment. The salts of sodium (more particularly the chloride) are to be found almost everywhere. Even the dust floating in the air contains it. Light your alcohol lamp, set it upon your table, and let it stand until the flame is steady. Now drop a book upon the table. Instantly your flame, which was before a very pale blue, emitting very little light, becomes strongly luminous and bright yellow. This is because you have raised a dust, and some of its particles containing chloride of sodium have passed into and have been vaporized by the flame.—*Scientific American.*

THE NEW ZEALAND GOLD FIELDS.—The Thames District, not far from Aukland, on the northern Island, are continuing to yield remarkably well. A crushing of 216 pounds of rock, taken from the vein worked in the Dawn of Hope claim, yielded 252 ounces of retorted gold; and a piece of gold quartz found in the Clyde claim, on Tapu creek, which weighed 25 ounces Troy), was estimated to contain at least seven-eighths of pure gold of a very rich quality. It was washed out of the quartz taken from the vein at a depth of twenty-eight feet, and comprised flakes of pure gold, intermixed with quartz of a semi-crystallized and brown character. The fine rubble accompanying the quartz was thick with gold.

COOSE BAY COAL.—The coal business at Cooso Bay is having a rapid and renowned development; and at no time since the commencement of the shipping of coal from that point in 1856 to this port, has that branch of industry looked so favorable as at present. We understand that the Eastport Coose Bay Coal Mining Co. intend to ship large quantities to this market henceforth. The members are Levi Stevens, I. W. Raymond, J. S. Dean, Oliver Eldridge, Claus Spreckles, W. H. Sharp, and J. Lawrence Pool. From the report of Mr. Ashburner, the mining engineer, who has made a thorough survey of the coal fields of Cooso Bay, it appears that the coal produced from the mine of this company is of the quality known as "brown coal;" that it is of a superior quality for domestic purposes, is remarkable clean, leaves but little ash, burns without disagreeable odor, and can be laid down in San Francisco at a cost of seven dollars per ton. The mine belonging to the above company comprises six hundred and forty acres of land, underlaid by the coal deposit.—*S. F. Times.*

DENSITY AND THE BOILING POINT.—The presence in a liquid of a substance dissolved in it (as salt in water) resists ebullition and raises the temperature at which the liquid boils. The boiling point of saturated brine under one atmosphere is 226° Fah., and that of weaker brine is higher than the boiling point of pure water by 1 2° Fah. for each 1-32d of salt that the water contains. Average sea-water contains 1 32d; and the brine in marine boilers is not suffered to contain more than from 2 32ds to 3-32ds.

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Ores carefully Assayed. Gold and Silver Ores worked.
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IN THE MARKET
Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.
☞Be sure and ask for the H & L brand, and see that the
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NONE OTHER IS GENUINE.
FOR SALE IN EVERY STATE IN THE UNION.

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MARAVILLA COCOA.
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The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skillful application of their soluble principle and elaborate machinery, produced what is so undeniably the perfection of Prepared Cocoa, that it has not only secured the preference of home baths and cocoa-drinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.
"A SUCCESS UNPRECEDENTED."
[See following extract from the Globe of May 14, 1868.]
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Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.
6v18-1y

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2v15-1qy

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All kinds of upholstering executed with neatness and dispatch. 9v17

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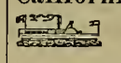
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6v18qr

Engineering.

MEXICAN INTERNAL IMPROVEMENT SCHEME. In connection with the railroad now building by a British company between Vera Cruz and Puebla, a Mexican company has been organized to continue the route to the Rio de las Balzas, in the rear of Acapulco, a branch of the Mescal, passing the great volcano Popocatapetl, and down the latter river to steam navigation, or to the sea. Another company is forming to make the Mescal navigable to the sea. An expenditure of $100,000 is anticipated, and is to be provided for by the sale of a thousand shares at $100 each. The net annual profits from the transportation and sale of salt, merchandise, Brazil wood for exportation, ajonjoli, soap, hides, fruit, ore, passengers, etc., are expected to reach $184,000, after deducting current expenses. The precious woods and rich mines on the margins of said river would alone secure a fortune to those who would take the matter in hand, and this long deserted waste would give employment to thousands who are now shut off from the rest of the world and living as the Mexicans do, from hand to mouth.

OBSERVATIONS FOR LONGITUDE AT SALT LAKE.—Professor George W. Dean, Assistant in the U. S. Coast Survey, has set up a fiue transit instrument on Temple Block, Salt Lake City, and has been making transit observations and telegraphing time in counection with Cambridge, Massachusetts, and Professor Davidson's observatory in this city. It is stated that with No. 8, or common wire, electricity passes at a rate varying from 20,000 to 25,000 miles a second. After getting all these observations recorded, it will,—says the Salt Lake *Reporter*, for the Coast Survey,—require a year to reduce them, amd at the end of that time the latitude and longitude of Salt Lake City will be determined with the utmost exactness.

THE SUEZ CANAL will, according to later French papers, not be completed till the end of the present year; but as there are not less than 20,000 men employed, the great event cannot be postponed long. The canal is one hundred and twenty miles long. Steam dredges and excavators scoop out the sand and dirt. Vessels will be propelled through the canal by means of endless chains along the bottom, to be worked by stationary engines at intermediate points. The tariff charges will be about $5 per ton.

THE PROJECTED MOKOMOKE HILL WATER WORKS at White Pine, are in the hands of A. P. Stanford and other capitalists of San Francisco, and are likely to be proceeded with energetically, as the franchise is said to be valuable. The water is to be taken from Illapah Creek, a stream two miles east of Hamilton, carrying several hundred inches of excellent water. The plan contemplates lifting this water to the top of Mokomoke Hill, some 800 feet, whence it will be supplied to Hamilton and the numerous quartz mills that will occupy the ravine skirting the northern and eastern base of Treasure Hill, and also to such towns as may bereafter spring up along the latter, the design being also to carry it to Treasure City some time during the present year. The engines and pipes for this work have been already ordered in San Francisco. Mr. Von Schmidt is the engineer.

WHITE PINE ROAD, WATER AND LAND COMPANY.—A company bas been formed, and has filed articles of incorporation in this city, for the purpose of bringing water by means of a pipe from the Base Range to "White Pine City," a quarter of a mile below the Eberhardt, and of building a road from Treasure City to the same place; the company owning there 500 acres of land, of which 125 acres are already subdivided into town lots.

THE bridge over the Yuba is a mile and one-eighth in length—the longest in the State.

Pacific Protective Association of California.

INCORPORATED OCTOBER, 1868.

PROSPECTUS.

OBJECT.—The object of this Association is to secure a cash payment, within sixty days after the death of a subscriber, to his or her heirs or assigns of as many dollars as there are individuals of the class to which said deceased subscriber belonged.

MEMBERSHIP.—The subscription fees are Ten Dollars at joining, and One Dollar on the death of each subscriber. The One Dollar from each subscriber is paid to the heirs or assigns of the deceased.

THE FUNDS.—The By-Laws of the association require that a portion of the money received as subscription fees shall be a Sinking Fund to meet assessments falling due by the delinquencies of subscribers. The balance of the money received to be used for the payment of the expenses incurred by the Association.

MEMBERS.—A subscriber failing to pay his or her assessment on one dollar within Thirty days from receipt of notice forfeits his or her Certificate, and all claims upon the Association, unless good cause is shown for further delay. A subscriber can forward money in advance, which amount will be credited on future assessments. The subscribers are divided into classes including males and females Each class is limited to 5,000 subscribers. As classes are filled, new ones will be formed. No person is so poor that he cannot pay Ten Dollars at joining and One Dollar occasionally, thus securing $5,000 to his or her heirs or assigns.

ADVANTAGES.—The advantages of this Association are, that no *money panic* can affect it. Its benefits are easily obtainable by all, and every subscriber added to the Association enhances the interest and protection of all; the amount paid being so small, and only at long intervals, that any person can secure for his family a competency upon his death.

CLASSES.—In Class A, all persons between the ages of 15 and 40 years; in Class B, all persons between the ages of 40 and 60 years.

Any one that has not stated his or her age correctly, will forfeit all money paid and his or her Certificate.

One class cannot be assessed if one of another class dies. Classes have no connection with each other.

HOW TO BECOME A MEMBER.—A person desirous of becoming a subscriber must fill out an application, and forward with it Ten Dollars by Check, Draft, or by Express, in gold or silver coin. Persons can pay agents, when regularly appointed and authorized to receive money. Each subscriber should interest himself in obtaining new members, by so doing all are benefited

BOARD OF DIRECTORS.—Benjamin H. Freeman, George H. Russell, Samuel A. Raymond, James A. Pritchard, W. Le Roy.

OFFICERS.—Benjamin H Freeman, President; George H. Russell, Vice President; John H. Warren, Secretary; James A. Pritchard, Treasurer.

REFERENCES.—Hon. Henry Dutton, President of Farmers' and Mechanics' Bank; Hon. Samuel Cowles, late Judge County Court, San Francisco; Hon. A. J. Gunnison, Attorney at Law, San Francisco; H. J. Booth, Esq., Union Iron Works, San Francisco; Henry F. Williams, Esq., Real Estate, San Francisco; John O. Hanscom, Esq., Etna Iron Works, San Francisco; John R. O'Brien, Esq., of O'Brien, Bush & Co., San Francisco; Hon. J. P. Jones, Gold Hill, Nevada.

All communications should be addressed to the Secretary of the

PACIFIC PROTECTIVE ASSOCIATION,

S. E COR. OF MONTGOMERY AND SACRAMENTO STREETS, (Over Donohoe & Kelly's Bank,) SAN FRANCISCO.

[10v18 3mos.]

New Incorporations.

Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

SALT POINT S. M. Co.—White Pine, Nev. Feb. 26th. Capital stock, $100,000,000; 10,000 shares, $100 each. Trustees: O. Dickinson, Jr., B. T. Browne, E. B. Dickinsou, E. J. Weeks and R. E. Brewster.

BOWDEN S. M Co.—White Pine, Nev. Feb. 26th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: M. Tubbs, R. Sherwood, C. B. Young, E. Haft and H. L. Lewis.

LOUISIANA S. M. Co.—White Pine, Nev. Feb. 27th. Capital stock, $200,000; 2,000 shares, $100 each. Trustees: A. Hayward, A. P. Stanford, Thos. Bells, M. J. McDonald and J. D. Fry.

PHŒNIX S. M. Co.—White Pine, Nev. Feb. 27th. Capital stock, $800,000; 16,000 sbares, $50 each. Trustees: J. L. C. Wadsworth, J. D. Fry, A. Cannon, G. F. Walters and W. C. Parker.

BROTHERS MINING Co.—White Pine, Nev. Feb. 27th. Capital stock, $1,500,000; 5,000 shares, $300 each. Trustees: T. C. Pedler, S. H. Wetherbee and J. W. Wesson.

LITTLE RIVER M. Co.—White Pine, Nev. Feb. 27th. Capital stock, $1,500,000; 5,000 shares, $300 each. Trustees: T. C. Pedler, S. H. Wetherbee and J. W. Wesson.

BADGER MINING Co.—Same capital, shares and Trustees as Little River Co.

SILVER MOON M. Co.—White Pine, Nev. Feb. 27th. Capital stock, $800,000; 16,000 shares, $50 each. Trustees, C. S. Mann, M. Ashbury, Wm. Sherman, A. Massey and T. R. Hopkins.

BLUE ROSE S. M. Co.—White Pine, Nev. Feb. 27th. Capital stock, $800,000; 16,000 shares, $50 each. Trustees same as Silver Moon.

NORTH PACIFIC STEAMSHIP Co.—San Francisco. March 5th. Capital stock, $5,000,000; 50,000 shares, $100 each. Trustees: Ben. Holladay, W. Norris, W. C. Ralston, Lloyd Tevis, W. F. Babcock, A. Hayward and S. F. Butterworth.

WATER FRONT BUILDING ASSOCIATION.—San Francisco. March 5th. Capital stock, $36,000; 48 shares, $750 each. Trustees: A. S. Gould, James Graves, G. W. Inslee, W. G. Doolittle and F. B. Wilde.

PIOCHE SHAFT AND MINING Co.—White Pine, Nev. March 5th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: E. N. Terrey, F. L A. Pioche, S. B. Clark, M. W. Kales and Thos P. Hawley.

BEN FRANKLIN MINING Co.—White Pine, Nev. March 5th. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: B. H. Freeman, Jno. McDonald, Jr., R. G. Brown, E. L. Smith and J. A. Eaton.

MOCKING BIRD MINING Co.—White Pine, Nev. March 5th. Capital stock, $1,400,000; 14,000 shares, $100 each. Trustees: W. H. Smith, Robert Riddle, C. S. Kasson, E. H. Shaw and J. M. Buffington.

EBERHARDT M. & M. Co.—White Pine, Nev. March 5th. Capital stock, $12,000,000; 120,000 shares, $100 each. Trustees: Frank Drake, E. Appleton, J. W. Crawford and E. R. Sproul.

SAN FRANCISCO DAILY HERALD Co.—March 8th. Capital stock, $200,000; 200 shares, $1,000 each. Trustees: S. F. Butterworth, L. Maynard and F. L. Sullivan.

HEARST MINING Co.—White Pine, Nev. March 8th. Capital stock, $3,000,000, in $100 shares. Trustees: D. D. Colton, A. Hayward, J. O. Earl, J. M. Wilson and C. G. Hooker.

TREASURE BOX MINING Co.—White Pine, Nev. March 8th. Capital stock, $2,000,000, in $100 shares. Trustees: George Hearst, Thomas Sunderland, George Wallace, A. E. Head and Lloyd Tevis.

CHICAGO MINING Co.—White Pine, Nev. March 8th. Capital stock, $2,000,000, in $100 shares. Trustees: A. Hayward, J. C. L. Wadsworth, John O. Earl, George Hearst and A. E. Head.

NEW ERA G. & S. Co.—White Pine, Nev. March 8th. Capital stock, $1,000,000, in $100 shares. Trustees: John Curry, S. F. Reynolds, D. McLaren, W. Hutchinson, C. H. Chamberlain, James Battersby and Albert Shepard.

ASTOR SILVER MINING Co.—White Pine, Nev. March 9th. Capital stock, $1,000,000, in $100 shares. Trustees: William Selby, John B. Dilley, Henry W. Fortune, Joseph C. Edwards and William P. Pierson.

MAZEPPA SILVER MINING Co.—White Pine, Nev. March 9th. Capital stock, $800,000, in $100 shares. Trustees: David L. Williamson, W. S. Perkins, A. C. Morse, W. C. Budd and C. E. Gibbs.

SILVER EAGLE MINING Co.—White Pine, Nev. March 8th. Capital stock, $8,000,000, in $100 shares. Trustees: A. E. Head, David D. Colton, W. Thompson, Jr., G. Wallace and George Gordou.

DORA CHAUNCEY CONSOLIDATED SILVER MINING Co.—White Pine, Nev. March 8th. Capital stock, $1,200,000, in $100 shares. Trustees: Theodore Reichert, A. J. Shrader, C. P. Vau Schaack, George Loomis, H. B. Rathbun, J. T. Pomeroy and Samuel Drake.

PICK AND SHOVEL MINING Co.—White Pine, Nev. March 12th. Capital stock, $1,600,000, in $100 shares. Trustees: A. P. Stanford, A. W. Von Schmidt, Jos. McArthur, John W. Conner and George H. Ensign.

CITY PARK HOMESTEAD ASSOCIATION.—San Francisco. March 10th. Capital stock, $54,000, in 360 shares. Trustees—Stephen T. King, J. N. Choynski, M. Waterman, Samuel Feder and B. P. Avery.

SILVER STAR CONSOLIDATED S. M. Co.—White Pine, Nev. March 10th. Capital stock $520,000, in shares of $100 each. Trustees: Anson Averell, J. M. Buffington, C. I. Hanson, T. R. Reynolds and W. P. Raymond.

REMOVAL.

TAY, BROOKS & BACKUS,

HAVE REMOVED TO

East side of Battery street, Nos. 614, 616 and 618,

Between Jackson and Pacific sts:,

One Block north of the Custom House and Post-Office.

Richmond Ranges; Barstow Cook with Hot Closet; Improved Empire City; French Ranges of all Sizes; Moultor Stoves, Metals, Etc., Etc.

10v18 1m

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

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IMPORTERS AND REFINERS

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Illuminating, Lubricating,

—AND—

PAINT OILS,

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

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Spirits of Turpentine and Alcohol.

Lamps and Lamp Stock!

An elegant and complete assortment.

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C. C. HASTINGS & CO.

Wholesale and Retail!

SUPERIOR GOODS! REDUCED RATES!

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SUCCESSORS TO

Heuston, Hastings & Co.,

SAN FRANCISCO AND NEW YORK,

Announce to the friends of the old firm, and the public at large, that their present business arrangements are such that they are enabled to offer the best and most stylish goods on the Pacific Coast at a great reduction from former prices.

AT WHOLESALE.

The attention of the merchants throughout the Pacific Coast, is called to the fact that we are now prepared to fill their orders for superior goods in

Strictly Custom-Made Clothing, Suits, Gloves, Hosiery, and Furnishing Goods, Trunks, Traveling Bags and Valises,

In lots to suit at regular wholesale rates.

CLOTHING TO ORDER,

Made either in New York or San Francisco, under the supervision of the best cutters in America.

DIRECTIONS FOR MEASUREMENT

Sent to any address upon application, and goods forwarded by Express on receipt of orders. Satisfaction guaranteed.

C. C. HASTINGS & CO.,

Successors to

HEUSTON, HASTINGS & CO.,

The Fashionable Clothiers,

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8v18 3m

INDIA FLEA DRUG!

A California Discovery.

This is a simple but very efficient FLEA POWDER.

It is Death to Fleas and Vermin, but not Injurious to persons.

TRY IT! TRY IT!! TRY IT!!!

After a thorough test you will use none other.

PUT UP IN BOXES ONLY. FOUR SIZES.

It is the best and cheapest article of the kind ever offered to the public.

Directions for Use.—Sprinkle your bedding and clothes, and add a little in your washing.

For sale, wholesale and retail, by Druggists.

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Care of Langley & Crowell, Druggists,

8v18 3m San Francisco.

Small Pox.

We have been shown by Wm. Zelner, the best and most convenient and portable apparatus containing Chlorine, for rooms, which we consider the best disinfectant out, and should advise all housekeepers not to be without one. Price $1, complete; to be had, with full directions, at WM. ZELNER'S German Drug Store, 128 Geary street, 25v17-3m

White Pine Items.

A working assay of 23½ pounds of ore from the Ida mine, White Pine, produced $10 08, showing a return for the ton of $757 86, being 986 fine.

THE following infectious item is extracted by the *Enterprise* from a letter written by Captain Rawlings, lately Superintendent of the Manhattan Mill, Washoe, and dated March 4th:

"Great excitement this morning on Treasure Hill. New discovery one mile north of town. The ore assays as high as $9,000. At least 2,000 have gone to see it. The sides of the hill are covered with people making locations. I have sent a man up. You must come and see this wonderful country. It is almost impossible to sink a hole in the ground anywhere without finding rich ore. The only question is to extent. Men every day bring in small bars of silver to the bank for sale. Everybody has money. This is certainly the "poor man's paradise.'"

LAST accounts from the "Pogonip" represent the weather to be as balmy as spring, and the *Alta* correspondent writes: The rush has commenced, and the stage companies find it impossible to accommodate all who arrive at Elko, consequently they have advanced the fare to $50. One stage arrived at Hamilton yesterday with eleven passengers, the fare amounting to $550, and the freight to $250, so that the gross receipts of the trip amounted to $800.

SOME of the members of the House-Carpenters' Eight-Hour League have on foot a proposition to use $2,500 of the funds on hand to send two practical miners to White Pine to locate mines for the League, and that twenty per cent. of the monthly dues of the association shall be set aside for the expense of working the mines.

THERE are nine "Great Eastern" claims on the Recorder's books at White Pine; and in some cases there are said to be as many as fifty claims of the same name.

THE number of rich mines at White Pine affords such excellent domain for wildcat, that the germ promises to become as prolific as in 1860–3. In these times nothing should be done in mining without the fullest information.

FROM the *Bulletin* correspondent's letter, dated Treasure Hill, March 5th, we extract the following:

Ores that will yield from $60 to $100 per ton exist in great abundance—there being considerable quantities that will mill three or four times that amount, while those of a grade ranging from $30 to $60 per ton seem quite inexhaustible. * * * The ores here can generally be extracted at small cost, are facile of reduction, and can be transported to the mill at a moderate expense; as they must always pass over a descending grade, while wood, water and salt can be supplied at rates that will insure their economical reduction. With the number of developements made, it is estimated that the mines would sustain a population of at least 30,000, and that they will afford a sufficiency of $100 ore to keep 500 or 600 stamps employed as soon as they can, or, at least, are likely to be brought in; while there is no limit to the amount that could be supplied to smelting works were they ready for operations. * * * The entire probable immigration is variously computed at 50,000, 60,000, and even as high as 70,000, it being estimated that 30,000 will be drawn from the States and Territories west of the Rocky Mountains, and as many more from points to the east of that meridian. * * * Eight or ten thousand might settle to advantage in the valleys adjacent to White Pine, or along the Humboldt, where the Central Pacific Railroad Co. have much excellent land to dispose of. * * * In the California mine a streak of veritable Eberhardt ore has been laid open at a depth of 15 or 20 feet, having every sign of permanency. Of this ore two men regularly extract half a ton per day, that will mill at the rate of $2,000 per ton. The body of $200 ore already exhibited in this mine is immense. * * * The strike spoken of in my letter as reported to have been made in the Hidden Treasure, turns out also a reality. The Independence, Featherston and Hornet improve daily under a steady and judicious application of labor, while further explorations of the rich one channel laid open sometime since in the Mazeppa fully justifies the importance attached to that discovery from the first. Quite recently a fine body of best class ore has been reached in the Silver Cloud claim, lying below the Genesee, on the western verge of Chloride Flat. It is the earliest location made in that vicinity, and, it is feared, will cut a broad swath through the numerous locations since made on that part of the Flat, which famous locality has now to share its glories not only with other Flats, such as Pogonip, Bromide and Alta, lying near by, but also with a still more formidable rival situate over against the Base Metal Range, directly opposite and some three miles to the west. Here some rich chloride ore, as yet only in small quantities, has been found, causing quite a rush to the spot. As the snow, however, still covers the ground to a depth that precludes successful prospecting in the neighborhood, it will probably be sometime before the extent and value of this discovery can be fully ascertained.

AN illustration of the great richness of this district, says the White Pine *News*, was given during the past week. Masten & Arrington, at Menker, engaged two men to sink a well in Mazeppa Cañon, near their establishment. After sinking to the depth of about fifteen feet, a ledge bearing a rich body of ore was encountered and located as a mine by the well-diggers. Of course no more progress for the purpose proposed could be made, and a new locality was sought. Here again, after sinking a few feet, another rich vein was struck, claim made and well abandoned. This was too rich a place to devote to furnishing water only, and in a more distant locality it was concluded to dig the well. Sinking has been resumed, but with what result the *News* is not advised.

SOME of the recent ore from La Monte mine, 250 feet north of the Eberhardt and parallel thereto, shows both native gold and silver.

PROSPECTING parties are already venturing out into the wastes. For many of these the summer will be long enough, and weary distances and rough mountains gone over will be looked back upon with reduced energies and hopes, yet with no reason to be at all sorry for having made the trip. One under James Basey, has left Treasure City and has gone in the direction of Steptoe Mountain. They intend to prospect in the Wasatch Range, south of Salt Lake. The party will be absent for several months.

SOME 800 or 900 tons of ore have accumulated on the platform of the Stanford mine, with large quantities on that of the North Aurora, and considerable lots about the shafts of many other claims, the most of the latter being so assorted as to constitute a high grade ore.

Railroad Items.

CAPT. W. H. FREEMAN, who has been exploring a line of railroad from the Blue Mountains, Oregon, to Puget Sound, arrived at Seattle, W. T., Feb. 25th—distance, 247 miles. Left the Blue Mountains Jan. 2d; arrived at the Snaquaimie Pass, Feb. 13th; found the snow in the Pass about 5½ feet deep; length 23 miles; grade 65 feet to a mile; considers the route one of the finest mineral and timbered countries in existence, terminating at the finest harbor in the world.—*Portland Oregonian.*

ALL the grading on the Western Pacific Railroad, between Sacramento and Stockton, is completed. Seven hundred graders are at work at various points between Stockton and Livermore's Pass, the bulk of them being near the latter place, where the heavy work extends for about eight miles. Masons are engaged in building culverts and doing other stone work in Alameda Cañon. After the grading has advanced enough to let the track-laying commence in the cañon, a switch will be put down from Vallejo's Mill to the Warm Springs Landing, where iron and ties will be landed.

ON Feb. 23d all the bridges on the Union Pacific in Weber Cañon, were reported completed down to Strawberry Creek, and all the forces available were engaged on the two remaining bridges, viz., across Strawberry Creek, and the Weber at Devil's Gate. Later dispatches report the completion of the bridges, and the arrival of the locomotive at or near Ogden.

It is alleged that much of the road bed is being made out of frozen clods, which will necessarily subside as soon as spring comes.

THE average travel over the Central Pacific Railroad is about 200 each way daily.

ON Wednesday the extension of the San José Railroad from San José to Gilroy, a distance of twenty miles, was inaugurated by a grand excursion. This road is intended by those interested in it, to be the first branch of the South Pacific, which is to be in running order by the summer of 1873.

THOSE SPECTACLES advertised "Lost," for which a very large reward was offered, were purchased at Muller's, 205 Montgomery street. *

Resources and Developments.

A BEET SUGAR FACTORY is about to be erected by the Sacramento Beet Sugar Association under the auspices of Mr. Wadsworth, who lately returned from a second trip to Europe, where he has been spending some months as a laborer in beet sugar factories, to familiarize himself with the details of the business. Mr. Wadsworth is enthusiastic in praise of the simplicity of making sugar from the beet as compared with the cane sugar process, and confident that the business will pay a large profit.

SLATE FOR BUILDINGS.—Since our item upon the economy, durability and weather-proof qualities of slate for covering buildings in this climate, we learn that an extensive quarry exists in Tuolumne County, and that the quality near the surface is unusually good, promising a superior material at a little depth. A specimen of that near the surface has been left at Barry & Patten's, 413 Montgomery street.—*Alta*, March 6th.

We understand that the working force engaged in developing this quarry will be materially increased the coming week, and the first shipment of roofing slate may be expected in this city by the first of May. All the slate heretofore used in this State has been imported at a cost of about $24 to the ton. A material equally good, can be furnished from the above locality at a cost, with reasonable margin for profits, not to exceed twelve or thirteen dollars.

OLIVE TREES.—People at Santa Barbara, says the *News*, have set out this season 200,000 olive cuttings, from mature trees. The demand has been so great that it was found impossible to supply the market with the better class of olive, and consequently parties have been obliged to put up with an inferior article. E. F. Sanborn, of San Diego, has shipped several thousand cuttings to Santa Barbara, for Captain Wilcox and others.

PATENT OFFICE TO REMAIN INTACT.—The House resolution providing additional accommodations for the Interior Department was discussed for two hours or more in the Senate ou Monday, Feb. 1st. Many Senators held that as the inventors of the country bore the expenses of the Patent Office, and the Government really derived a handsome revenue from it, the building ought not to be diverted from the uses to which it was originally intended, and hence the models, which Mr. Fessenden says accumulated at the rate of 14,000 per annum, will be left alone in their glory.

THE new discovery in the Base Range is a mile and a half due west of Treasure city, or three miles by the road. The locality is known under the various names of Northern Light Hill, Chloride Flat No. 3, and Base Range, but a town has been laid out and named Babylon. It is said to be a favorable locality for mining.

New Mining Advertisements.

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of March, 1869, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the sixth (6th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before will be sold on Monday, the twenty-sixth day of April, 1869 to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. mar13

North American Wood Preserving Company.

Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the twelfth day of March, 1869, an assessment of one ($1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 439 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourteenth (14th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the first day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.

Office, 439 Montgomery street, San Francisco. mar13

Mining Notices--Continued.

Cordillera Gold and Silver Mining Company.—Chihuahua, Mexico.

NOTICE.—The Annual Meeting of the stockholders, for the election of Trustees will take place on MONDAY AFTERNOON, March fifteenth, at 3 o'clock, at the office of the Company, No. 321 Washington street, San Francisco.

mar6 HENRY R. REED, Secretary.

Chloride Mountain Tunnel and Mining Company.—Location of Works: White Pine Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of February, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No 615 Kearny street, San Francisco, Cal

Any stock upon which said assessment shall remain unpaid on the thirteenth day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the tenth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JAMES RICE, Secretary.

Office, No. 615 Kearny street, San Francisco. feb13

Glenwood Mill and Mining Company, Greenwood, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of February, 1869, an assessment of twenty-five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, Room 11, No. 431 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the second day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WILLIAM VALE, Secretary.

Office, 434 California street, San Francisco. feb27

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the nineteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
John A Johnson	284	1	$1 50
J S Adams	23	5	7 50
J S Adams	325	2	3 00
J S S Robinson	322	5	7 50
Mary C Bridges	360	12½	18 75
Catherine Jones	144	30	45 00
Catherine Jones	155	17	25 50
Catherine Jones	253	5	7 50
T B Clark	375	10	15 00
T B Clark	386	22½	33 75
E M Long	354	10	15 00
C Goodell	243	15	22 50
C Goodell	312	5	7 50
Wm Davidson	340	5	7 50
Wm Davidson	74	½	75
Ann Hogan	176	7	10 50
Charles Fisk	150	5	7 50
W J Thomas	370	3	4 50
Daniel H Dickinson	294	10	15 00
Daniel H Dickinson	359	10	15 00
E M Washburn	27	5	7 50
Henry Jardine	188	5	7 50
Henry Jardine	304	3	4 50
Henry Jardine	330	12½	18 75
Henry Jardine	331	5	7 50
Henry Jardine	334	15	22 50
Hepburn James	16	5	7 50
Hepburn James	153	5	7 50
Henburn James	247	10	15 00
A Wagner	207	5	7 50
Chas Saunders	294	5	7 50
Caroline A Nelson	293	2	3 00
George Brosie	229	10	15 00
James Wyllt	231	5	7 50
F M Sjieke	389	4¼	6 40
Coal Mining	237	28	42 00
John G Slavin	254	1	1 50
Henry Eno	301	3	4 50
Henry Eno	3 7	7½	11 25
E F Gibson	270	12	18 00
E F Gibson	271	12	18 00
E F Gibson	274	5	7 50
E F Gibson	302	3	4 50
Wm Jones	246	3	4 50
John Cairns	249	70	105 00
John Solts	381	10	15 00
John Solts	296	8	12 00
D H Riddle	258	5	7 50
Julius Zobel	259	5	7 50
H D Scott	260	5	7 50
J A McMahon	263	7	10 50
R K Love	275	5	7 50
R K Love	303	4	6 00
R K Love	329	12	18 00
R K Love	342	5	7 50
L Wechselhausen	281	4	6 00
Wm West	352	5	7 50
N Drake	357	½	25
R S Cutter	366	3½	5 75
R S Cutter	384	10	15 00
E Ekelund	362	3	4 50
E Ekelund	364	2	3 00
Philip Myers	370	2	3 00
M Long	385	22 7-16	33 60

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Wednesday, the seventeenth day of March, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. mar6

Mount Tennbo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of January, 1869, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 426 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth (5th) day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirtieth (30th) day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N VAN BRUNT, Secretary.

Office 426 Montgomery street, San Francisco. jan30

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until the second day of April, 1869, and the sale thereof until Tuesday, the twenty-seventh day of April, 1869. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary.

mar6

Star Creek Mining Company.—Location: Star District, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of February, 1869, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary at San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-ninth day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HORACE MORRISON, Secretary.

Office, N. E. cor. Front and Jackson streets.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Millmen are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

ELLERY'S PATENT
India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,

Iron, Brick and Wooden Buildings,

SHIPS, STEAMBOATS, STAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

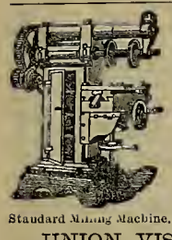
New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

GEO. T. BROMLEY, Agent,

Battery street, corner Jackson,

24v17-3m San Francisco.



Pipe Vise, with or without Extra Jaw.

Standard Mining Machine.

UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

BLAKE'S QUARTZ BREAKER!
PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

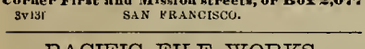
Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

PACIFIC FILE WORKS,

No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. CHEAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**

Removal.
NELSON & DOBLE,
AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

10v14qr

MACHINERY AGENCY.
W. O. M. BERRY & CO.,

Are the manufacturers' agents for Richardson, Merriam & Co's celebrated

Wood Working Machinery,

Embracing every description of Planers, Matchers and Mortisers, Moulding, Tenoning, Boring, Shaping, Vertical and Circular Re-sawing Machines; Scroll, Railway, Cut-off and Rip Saws, etc., etc. Agents for the Swam-cot Co's

Improved Portable Engines,

Warranted fully equal to any in the market; Davis & Furber's Woosen Machinery; Blake's Patent Steam Pumps; Kilburn's and Warren's Turbine Water wheels etc, etc.

Orders for Machinery of any kind will receive prompt attention. Machines for special purposes built to order. Send for Illustrated Catalogue. W. O. M. BERRY & CO.,

8v13-3m 114 California st., San Francisco.

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 1 Clay street, below Davis.

CALIFORNIA TOOL WORKS,
Blacksmith and Machine Shop,

143 Beale St., bet. Mission and Howard,

SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to ☞ All work warranted.

21v17-qy **J. WEICHHART, Proprietor.**

PATENT
Boiler Scraper and Tube-Cleaner.

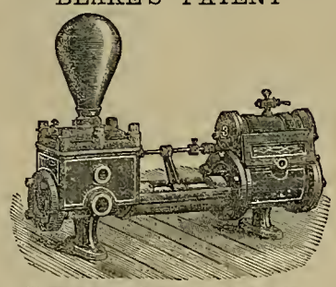
IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape out the seales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

BLAKE'S PATENT



STEAM PUMP!

This Pump is warranted superior to any in the market, for Breweries, Sugar Houses, Tanneries, Boiler-Feeders, Steamboats, Mining and Fire purposes, etc. It throws a full stream of the thickest beer mash without clogging, and sugar syrup boiling hot without difficulty.

Warranted a positive Pump under ALL circumstances; it never stops nor gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

☞ If one fails to do the work for which it is sold, it may be returned and the money will be refunded. May be seen in operation at Risdon's, or Union Iron Works, or at

W. O. M. BERRY & CO'S,

Agents for Pacific States,

8v18-3m 114 California street, San Francisco.

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

Eley's Ammunition.

These Cartridges are made in three sizes, viz., .577 (or Snider Enfield) bore; .500 (or half-inch) bore; and .451 (or small) bore.

These Cartridges have been adopted, after careful comparative trials against all other descriptions, by HER MAJESTY'S WAR DEPARTMENT, as the Standard Rifle Ammunition for the BRITISH ARMY, and are not only used exclusively for the Snider Rifle, but are adapted to all other systems of military BREECH LOADING RIFLES.

They are the cheapest Cartridges known, carrying their own ignition, being made wholly of metal, are water-proof and imperishable in any climate.

Boxer Cartridge Cases (empty), of all 3 sizes, packed with or without bullets, and machine for fastening same in Cartridges.

Makers of BOXER CARTRIDGES, .450 bore for Revolving Pistols, in use in Her Majesty's Navy.

PIN CARTRIDGES for Lefaucheux Revolvers of 12 M, 9 M, and 7 M, bore.

CENTRAL FIRE and PIN FIRE CARTRIDGES, for all sizes of Guns, Rifles and Revolvers.

Double Water-Proof and E. B. Caps. Wire Cartridges for killing game at long distances. Felt Waddings to improve the shooting of guns; and every description of Sporting and Military Ammunition.

Wholesale only.

ELEY BROTHERS,

18v16eowly Gray's Inn Road, London, W. C.

PATENT RIGHT
—FOR—
MANUFACTURING PROOF SPIRITS
FOR SALE.

Attention is called to MARTIN'S NEW PATENT for a process for Distilling Alcohol ($5 per cent. or higher), without rectifying, which is offered for sale on favorable terms. Samples may be seen, and further information obtained, at No. 423 Washington street.

26v17 **E. M. DEWEY.**

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL.

BARTLING & KIMBALL,
BOOKBINDERS,

Paper Rulers and Blank Book Manufacturers,

505 Clay street, (southwest cor. Sansome),

15v12-3m SAN FRANCISCO.

JOHN DANIEL,
(SUCCESSOR TO O. GORI)
MARBLE WORKS,

No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs Etc., On hand and Manufactured to order.

☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

Palmer's Patent
ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.

JARVIS JEWETT, AGENT.

218 Montgomery Street, San Francisco. 10v8-1m

J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,

(Over W. T. Garratt's Brass Foundry,

S. E. Corner of Mission and Fremont sts.,

6v14tf SAN FRANCISCO.

J. F. PAGES,
SEAL ENGRAVER,
AND LETTER CUTTER,

Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.

6v16

DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,

Manufacturers of all kinds of

Desks and Office Furniture,

717 Market street, near Third.

Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

Novelty and Usefulness Combined.

Wilson's Prepared Solder

Dispenses with the Soldering Iron.

It will save you both time and labor. One bottle of this Solder will mend all the tins you have had one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire.

Agency for the Pacific Coast, Room No. 10, No. 423 Washington street, San Francisco. AGENTS WANTED.

Address P. O. box 17. 23v17tf

LEA & PERRINS'
CELEBRATED
WORCESTERSHIRE SAUCE

Declared by connoisseurs to be the only

GOOD SAUCE.

The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for

Lea & Perrins' Sauce,

and see that their names are upon the wrapper, labels, stopper, and bottle.

Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L and P give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Venders of such, or any other imitations by which their right may be infringed.

Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.

Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CROSS & CO. San Francisco. 3v18 1v

Our Patent Agency.

The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

Our Idaho Correspondence.

MINING NEWS.

EDITORS PRESS:—By private letter from Yuha, I learn that the energetic Superintendent of the Monarch Gold and Silver Mining Company, Mr. Atkins, is now down on the Atlanta over one hundred feet, and has found the vein much richer than ever. There are two veins in the main lode running parallel to each other; one is two feet and the other six inches in width, plainly discernible in character from the other parts of the pay streak or seam, the whole seam containing precious metals, and the matter enclosed between the casings being over twenty-five feet—some say near forty, but I will be moderate. These two veins are now yielding ore that assays over $20,000 to the ton, and the highest assay given is $26,400. Does not this put White Pine in the background?

Work done last fall by the owners of the Willamette lode, running east from the Discovery Stake, gives evidence that at the depth of seventy-five feet there is a splendid body of ore, very rich in silver, and although no practical assay of it has been made, yet by common fire test, experienced mineralogists pronounce it first-class ore. The owners on the west propose to open up at a low level this spring. The lode at seventy-five feet deep is over six feet wide, easy to work—timber in the way, which has to be cleared,—and good water-power close at hand.

White Pine and Elko have taken away most of our floating population, and some that we did not like to lose; but Boise City, though dull, is not dead yet. We hope yet to see a railroad near, if not right at our doors, and think that the railroad companies are making an error in judgment in not bringing their iron horse snorting, close to our vicinity.

COMMUNICATIONS.

The storms which have been hurrying the country with snow, or inundating it with water all around, have left us untouched, and we have been reveling in warm spring weather.

It is now a week since we have had a through mail from the East, and the California route is but little if any better.

Hailey is running the stage through from Umatilla to the railroad at Ogden and Salt Lake, and promises, as soon as the roads get good, to make the distance, 625 miles, and the Blue and other mountains en route, in eighty-four hours; Umatilla to Boise, 1½ days; Boise City to Ogden, two days.

PEGASUS.

Boise City, March 5th, 1869.

BREAD MAKING.—The following communication has been called out by the article in our issue of Feb. 6th, giving Professor Horsford's directions "How to make good bread:"

EDITORS PRESS:—How I make good bread; very much as Prof. Horsford advises, except that I prepare yeast as follows: Select one good potato about the size of a goose egg, cleanse, peel and grate it raw, add a table spoonfull of brown sugar and enough lukewarm water (80°) to fill a common bottle three-fourths full; cork it tight, and tie down the cork. In a day or two, according to temperature (which ought never to be much above 80°), it will be ready for use. Open carefully lest you lose all. The bottlefull will make four or five large loaves. If a spoonful or two of yeast is left in the bottle it can easily be renewed, and will be ready for use in less time. This method of preparing yeast will be convenient for those miners who cannot readily procure "Best Bakers' Yeast" at any moment they need it.

PROF. JEIGH ARRH.

PROGRESS IN AGRICULTURAL CHEMISTRY. It is only fifty-eight years since the first accurate analysis of a vegetable substance was made, and about forty years since Liebig commenced to make reliable and systematic determinations of the chemical nature of plants and soils. The fact is almost incredible, that up to 1838 so little positive knowledge existed concerning the agricultural value of *ashes*, that the Gottingen Academy offered a prize for a satisfactory solution of the question, "*Whether the ingredients of ashes are essential to vegetable growths.*"—*Boston Journal of Chemistry.*

ACTION OF SULPHATE OF SODA IN DYEING. The sulphate of soda, which is scarcely ever treated of in books on dyeing, because of its chemical indifference for coloring matters, elevates, as every soluble substance does, the specific weight, and thus also the boiling point of the solution. It is possible, for instance, to change the shade of aniline violet into blue or red, according as the temperature of the solution is more or less elevated. When the dyeing is performed in an acid bath (the dyers very frequently add sulphuric acid to their baths), the sulphate of soda combines with the free sulphuric acid and forms with it bisulphate of soda. In this manner the bath retains its acid reaction without the presence of free sulphuric acid. Hence, when half-woolen cloths are dyed, the cotton in them, extremely sensitive to the action of the mineral acids, will be very well preserved. Dissolved in water in great quantities, the sulphate of soda diminishes the capacity of the bath to dissolve the added coloring matters.

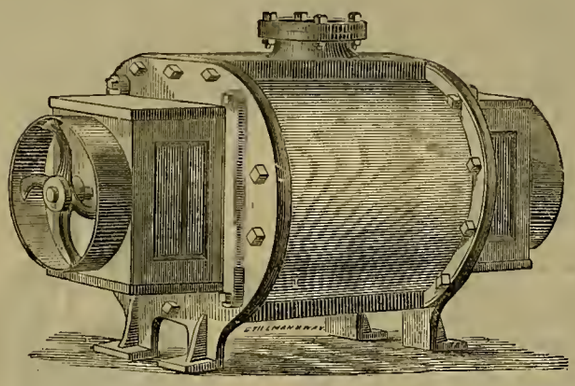
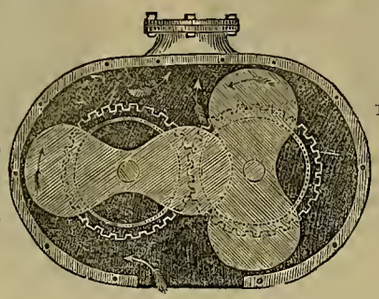
As an example;—the red coloring matters possess the property of combining only with the greatest difficulty with the fiber when dyed in acid bath. Therefore, wherever the substances are employed in the acid bath—and often this is necessary—the greatest part of the coloring matter is wasted and lost if the common process is employed. By adding sulphuric acid, the dying power of the pigments can be put into activity, and by varying the quantity of sulphate of soda employed, it is possible to control the combination of the pigment with the textile fiber. Therefore, by means of the sulphate of soda various shades can be produced.—*Dr. Reimann, in Scientific American.*

ELECTRICAL EXPERIMENT.—Procure four glass tumblers, and having wiped them dry, hold them over the fire, for the least moisture spoils the experiment. Place them upon the floor in a square, about one foot apart; place a piece of board upon the tumblers; and a person upon the board. This person is now completely insulated. Now take a common rubber comb, and having wound a piece of silk around one end of it, rub it briskly through your hair, and draw the teeth parallel to the insulated person's knuckles, leaving a little space between the comb and the hand. The result will be a sharp, crackling noise, and if it is dark, there will be seen a succession of sparks. Repeat the process until the phenomena cease. The person is now "charged" with electricity, the same as a Leyden jar. To draw off the electricity, approach your knuckles to the person's hands or his nose (being careful not to allow any portion of your body to come in contact with his), and there will be a loud snap and the sparks will be very brilliant. If a cat be held so that the charged person can place his knuckles in proximity with the animal's nose, it will suddenly appear as if it were in contact with an electric battery. Much amusement may be derived from this simple experiment.—*Boston Journal of Chemistry.*

AMERICAN ARMS ABROAD.—The New York *Sun* says the Remington Company has recently delivered to the Danish government, 40,000 of their guns, and to the Swedish government 30,000, and the Greek government has contracted for 15,000, which have not yet been delivered. The Remington pattern is a single cartridge breech-loader. The Cuban government has bought upwards of 20,000 of Remington and Peabody rifles,—the latter an arm manufactured in Providence. The Russian government has a contract with the Colt Firearms Company at Hartford, for 30,000 rifles, an improvement on the Prussian needle gun.

CALIFORNIA
BUSINESS UNIVERSITY,
204 Montgomery Street.
Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
11v1-nov12p E. P. HEALD, San Francisco.

OCCIDENTAL
Insurance Company,
OF SAN FRANCISCO.
Cash Capital, - - - - - - - $300,000
GOLD COIN.
Office S. W. corner of Montgomery and California streets.
Fire and Marine Insurance.
All Losses paid in U. S. Gold Coin.
CHR. CHRISTIANSEN, President.
B. ROTHSCHILD, Secretary. 20v17-3m

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.
Awarded the First Premium at the Paris Exposition.

ADAPTED FOR Smelting, Foundry, Mining and Steamships.

REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.
One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.
CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.
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"	5	" "	6	"	20	"	21	Poll	4	"	18
"	6	" "	6½	"	20	"	22	"	4½	"	13
"	7	" "	7	"	24	"	23	"	5	"	20
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"	9	" "	4½	"	16	"	25	"	6	"	22
"	10	" "	5	"	18	"	26	"	6½	"	24
"	11	" "	5½	"	18	"	27	"	7	"	30
"	12	" "	6	"	20	"	28	Coal	2	"	15
"	13	" "	6½	"	20	"	29	"	2½	"	15
"	14	" "	7	"	24	"	30	"	3	"	16
"	15	Drifting	3½	"	16	"	31	"	3½	"	16
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San Francisco March 6, 1865 11v10-tf

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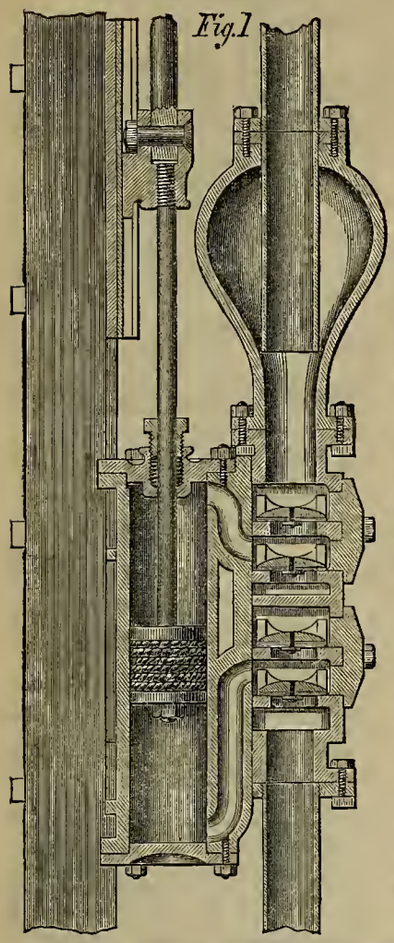
THE EXCELSIOR PUMP.

Fig. 1



THE BEST PUMP FOR MINING,
FARMING AND DOMESTIC PURPOSES.

Hooker's Patent, August 15, 1866; Jan. 15, 1867.

IMPROVED
DOUBLE-ACTING SUCTION AND FORCE PUMP.

Fig. 2

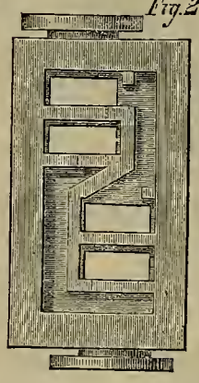


Fig. 3.

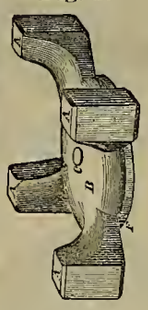
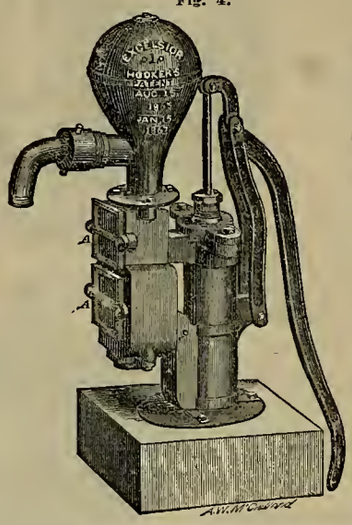


Fig. 4.



Seventeen different Styles and Sizes, suitable for all purposes, and for any kind of power.

These Pumps are meeting with universal favor wherever tried, and are now being introduced, in many instances superseding Pumps which had hitherto been considered the best in the world.

Fig. 5.

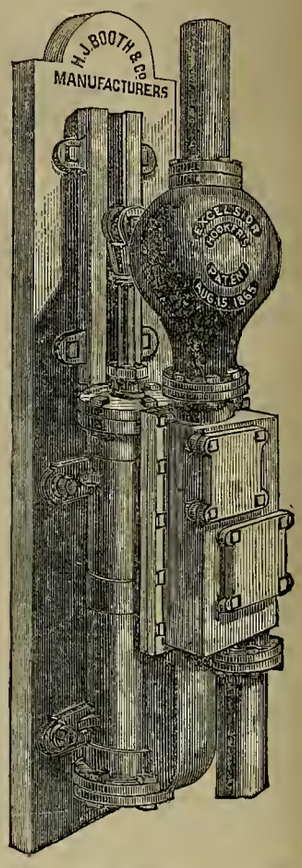


Fig. 1 is a sectional view of a 6-inch Mining Pump, showing the plunger and hemp packing on the left, with the chamber on the right containing the puppet valves. Fig. 2 represents the chamber, with the water-passages and valve-seats. Fig. 3 is the valve, operating in the chamber. Fig. 4 is the improved Hand Pump. Fig. 5, a 6-inch Mining Pump, shows the adjustable bonnet opening to the valves.

For Circulars, or further particulars, inquire of or address J. W. BRITTAN & CO. Agents, 120 Front street, San Francisco; H. J. BOOTH & CO., Union Iron Works, First street, San Francisco, or

CUSHING & CO., Proprietors,
San Francisco.

OREANA (HUMBOLDT) SMELTING WORKS. Speaking of Oreana, Nevada, a correspondent of the *Enterprise*, of March 3d, says: This place was once a lively mining town made prosperous for a season by the works of a New York Company, which engaged in smelting some argentiferous ore. A few months since the works were suddenly closed, and Nason, the Superintendent, called to New York. We were informed that he was coming back to renew the work, but this we donbt. At any rate, Oreana is now a place where the notorious "Rip" might sleep in peace.

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This department of Yale College, Instituted in 1840, and endowed with the National Land Grant in 1866, furnishes advanced instruction in the various brauches of Mathematical, Physical, and Natural Science.

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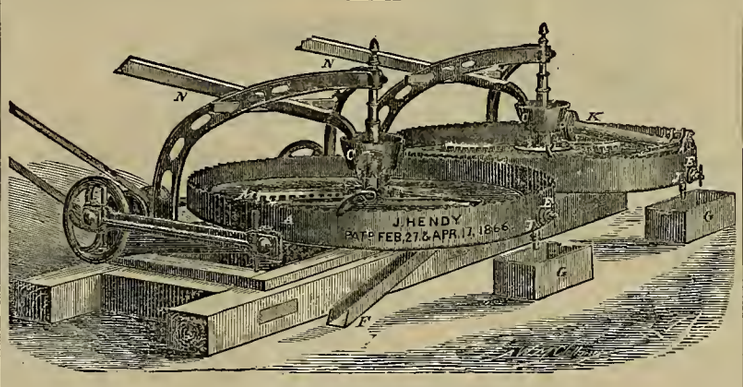

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IMPROVED CONCENTRATORS
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Stronger and more Durable than Ever.

OFFICE OF NORTH STAR MINE, GRASS VALLEY, Nov. 12, 1868.

JOSHUA HENDY, ESQ.—Dear Sir:—I take pleasure in certifying to the efficiency of the two last Concentrators ordered from you. We have run them steadily since July last, with but a very trifling expense for repairs. The additional length of step is a decided improvement. The first six sent to us have run steadily for nearly nine months, and are still doing good work. * * * The concentrations from the eight pans alone much more than pay our entire surface expenses. Without them we should lose a large proportion by any system of concentration now in use. The eight Concentrators receive the pulp from our 24 stamps, which are crushing 1,040 tons per month. Our sales of Sulphurets last month amounted to 70 tons, or nearly 7 per cent. of the mass crushed. The sulphurets from the reconcentration, contained about 10 per cent. sand. In addition to their properties as concentrators, they have done us good service as amalgamators, they having saved us the past month 50 ounces of hard amalgam, worth $350, which otherwise would have been lost.

Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.
Office at Union Iron Works.
13v17tf

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, MARCH 20, 1869.

VOLUME XVIII. Number 12.

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MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Arizona, Colorado, Idaho, Montana, Oregon, Nevada, Washington, South America.
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Contributions for our Cabinet.

No. 382.—Coal shale, from a point four to six miles east of Hamilton, White Pine District. It has an obsidian-like anthracite surface, and a fracture resembling cannel, but it is neither; a very large percentage of the specimen being earthy matter, so that it burns only from the surface to a certain depth, requiring further fracture to complete the burning process. The geological age of this coal is not determined, but it is probably carboniferous, or older,—a fact easily determined, as there are many fossils in the vicinity. The vein is horizontal, five to six feet in thickness, and under ten to fifteen feet of calcareous shales at the point of discovery. It is very probable that veins of a better quality will yet be discovered, as there are good, bad and indifferent veins in all coal countries. Presented by Julius Von Schmidt, C. E.

No. 383.—Auriferous pyrites which have proved very rebellious, for reasons unknown to the millman; from the Wheeler mine, Pine Grove, Amador County. The ore contains from $100 to $200 to the ton, but only $50 has been obtained in working. A lot of 300 pounds worked raw in a pan, with twenty pounds of mercury, resulted in a product of only half a pound of amalgam and mercury. Mr. Kustel's attention being called to the difficulty, it was surmised that some soluble substance in the ore—either a sulphate or chloride—might be the deleterious cause, and on examination a large percentage of sulphate of lime (gypsum) was found present, one part of which is soluble in 400 of water. On trying the effect of gypsum upon mercury, separately, however, the same deleterious effect was not experienced. The real cause of the rebelliousness of the ore appears, therefore, to remain in doubt. Presented by G. Kustel.

No. 384.—Pitch copper ore with red oxide of copper, from near the Buchanan copper vein, Fresno County. Presented with Nos. 385-6-7, by C. Wrage, of Antelope Ranch, Merced County.

No. 385.—Chrysocolla, or green silicate of copper; cuprit, the red oxide of copper, accompanied by the same in an earthy condition, which is called "tile ore;" and limonite, or brown iron ore; from the Buchanan copper vein (German Company) Fresno County.

No. 386.—Quartz stained with red oxide of copper and iron. Near Buchanan vein.

No. 387.—Tile ore, or perhaps red iron ocher disseminated in granular quartz, having fine crystals of white mica. Cowchilla Mining District, Mariposa County.

No. 388.—Black garnets in green-earth, or seladonite. Moore Hill, Mariposa County.

No. 389.—Serpentine, the hardness exceeding that of calcspar; and steatite, apparently the same, in a decomposed state, and a little harder than butter. The composition of both is, in the main, silicate of magnesia. From Duncan's Mill, Sonoma County, where it is known as mineral soap. Both steatite and serpentine bear intense heat; the latter, when put into water, has a soapy feel, but will not answer for washing. B. C. Bell.

No. 390.—Several dozen specimens of well-preserved fossils from White Pine District, partly silicified. Several of them are in quartz, which seems to be pseudomorphous from limestone. The most numerous and best preserved are brachiopods (mollusks) which appear to be of the epirifer and terebratula families, but there are very perfect seaweeds, (algae), corallines, etc. The memorandum of localities and details has not yet come to hand. Presented by J. E. Clayton, M. E., through Andrew G. Gove.

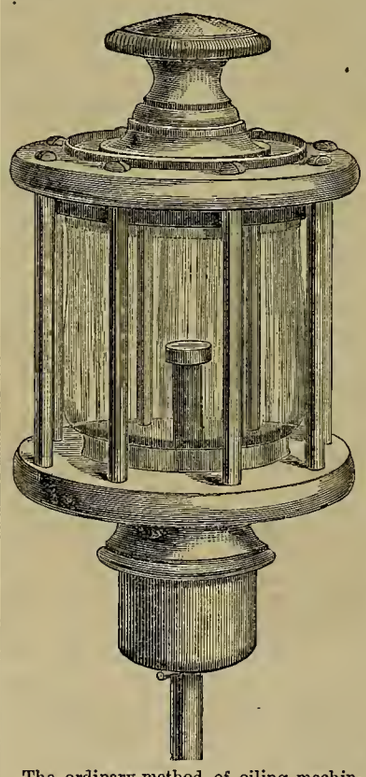
IMPERCEPTIBLE EARTHQUAKES.—Geologists tell us that the crust of the earth is subject to a constant lateral pressure, from shrinkage, (as is the case in the skin of an apple); and the faults and slidings of rock along its cracks and fissures, as witnessed in mines, are known to exist everywhere underground. It is a very reasonable conclusion that movements of strata past each other may be going on so gradually and regularly as to be ordinarily imperceptible. Delicate tests sustain the hypothesis. On the 29th of September, last year, in the Astronomical Observatory near St. Petersburg, Russia, a slight, almost imperceptible movement of the air in the spirit level was noticed, without any apparent cause. Councilor Wagner attributed it to an earthquake somewhere, and noted the hour and minute of the occurrence. Afterward it was known that at Malta there had been an earthquake at the time, and that the heaviest shock preceded, by several minutes, the observation at Pulkowa. Subsequently the same thing was noticed again, and it was at the same time with an earthquake in Central Asia.

A ONE-WHEELED velocipede design has been shown to us by Mr. A. Frick, the inventor, who thinks that the motion of the machine as he has it arranged will make the machine self-balancing, longitudinally as well as laterally. Unreasonable as this appears, we understand it to be his intention to test the matter by the construction of a one-wheeled velocipede.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

Dreyfus' Patent Self-Oiler.

This invention, represented in the engraving, is one of the best illustrations that we have seen for some time of the benefits, and the easy triumphs of invention as well as of the substantial rewards attending the carrying out of a "good idea." Dreyfus' patent oiler is simply an air-tight, glass oil box, having a hole in the bottom, which is nearly filled by the wire rod seen rising up in the middle in the engraving. The lower end of the rod rests on the revolving shaft of any piece of machinery to which it is applied. The slight disturbance of the rod given by the motion of the machinery causes the air to find its way up into the oil box, through the oil, and to let down the same, consequently, as fast as it may be desired.



The ordinary method of oiling machinery is to pour oil on the journal by means of an oiling can. Oiling in that manner must be very frequently repeated, necessitating considerable labor, and much of the oil flows off at once. Another method is to pour it into a little stationary funnel; but as there is no vacuum to hold back the oil, it flows through too fast, and runs to waste. Dreyfus' oiler saves 75 to 90 per cent. of the oil ordinarily required. The size seen in the engraving, filled with oil, will not run empty in a month. It is applicable to any common bearing, and prevents both heating and freezing of the oil. The wire is regulated inside the tube to feed according to the demands, and there is no flow of oil whatever while the machinery is not in motion. It is reliable in winter, for the reason that the friction produced by the action of the bearing on the wire causes the wire to heat, thereby causing the oil to become limpid. Being perfectly air-tight vessels, the oil will never gum.

The agent for the Pacific Coast is Wilkie Darling, Esq., No. 629 Washington street. For further particulars, see advertisement in another column.

THE WELCOME RAIN.—Most welcome to the people of California has been the warm and gentle rains of the past week. A feverish anxiety had begun to manifest itself, lest the drouth of the previous weeks should have been continued for a length of time which would have proved detrimental, if not destructive, to our grain crops. All anxiety is now happily dispelled. The rain has been general over all the agricultural lands of the State, while a small quantity of snow has fallen in the Sierra and over the more elevated regions, as far east as Salt Lake. Croakers and grain speculators are the only parties who do not welcome this refreshing visitation of Providence. The latter, who had hoped to realize high prices for flour in consequence of the failure of the present crops, are now, happily for the masses of the people, disappointed in their expectations. If those who are still holding grain and demanding New York and Liverpool prices, will send it forward by some of the tonnage now in port and waiting anxiously for freights, at such prices as the markets will actually warrant, they will doubtless find the operation greatly to their own profit, and highly beneficial to the general commercial interests of the coast. The present assurance of abundant crops will also tell largely upon the overland emigration for the coming summer, as a failure in that direction would have gone greatly against us with the transient thousands who will visit us during that time, and would also have deterred many others from coming at all, who had made up their minds to embrace the opening of the overland road as a favorable time to transfer their residences to the Pacific Coast.

SNOW ON THE CENTRAL PACIFIC.—It is gratifying to Californians to observe that the delays from snow on the overland railroad, the past winter, have been almost exclusively confined to the Eastern division. Many doubts have been expressed as to the stability of the "snow sheds;" but the experience of the past winter has settled that question most satisfactorily. A few imperfections, which were revealed a year ago, have been promptly attended to during the summer, and the modifications have proved all sufficient. The company has now about twenty miles of sheds; some ten miles more will be required to span the snow belt, all of which will be constructed during the coming summer. It is the determination of the Central Pacific Company to keep their road as free for the passage of trains in winter as in summer, and we trust for the benefit of both companies and for the public that the Union Pacific will exhibit an equal degree of foresight and enterprise.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

Written for the Mining and Scientific Press.

The Johnston Brandy Distillation Process—The Aroma and Fusil Oil.

San Francisco, March 1st, 1869.

Editors Press:—My attention has been called to an article in your valuable paper of the 20th of February, as follows:

"The Johnston Still substitutes a column rectifier between the still and the worm, in which the spirit as distilled is frequently washed with water before condensation, and the fusil oil thereby thoroughly extracted. A small sample sent us, which was distilled by Mr. Bugby, though 35 per cent. above proof, possessed an unusual smoothness for its age, with a delicious perfume and flavor of the grape from which it was made."

In the first place, I would remark that a column still is not a very recent invention. It has been used in England and France for some years. I have several diagrams in my possession, such as are used in France, invented by one Gantheir Vellars. The most celebrated cognac distilleries of France do not favor the use of column stills for the manufacture of brandy; they adhere to the old style of still. The column still is better adapted to the manufacture of neutral spirits and alcohol. They rectify the spirit too high to retain much of the aroma and boquet of the grape.

My object is not to condemn the column still; but the statement that brandy distilled by it has all the fusil oil extracted, and yet the brandy possessing all of the perfume and flavor of the grape, is an error too apparent for any one acquainted with the chemistry of liquors to credit. The flavor of brandy is due to the fusil oil it contains. Dispossess it of this oil, and you have a flavorless spirit called pan spirit, neutral spirit, or alcohol.

Dr. Ure, the great English chemist, says brandy is the name given in this country to ardent spirits distilled from wine, and possessed of a peculiar flavor due to a minute portion of a peculiar volatile oil. The most celebrated of the French brandies—those of Cognac and Armaquac—are slightly rectified, to only from 0.935 to 0.922; they contain more than half their weight of water, and come over, therefore, highly charged with the fragrant essential oil of the husk of the grape. I will here state that 0.935 and 0.922 refers to the specific gravity, and has the strength respectively of 50 per cent. by volume or 42 by weight for the former, and 56 per cent. by volume or 48 by weight for the latter. You will perceive that the greater the specific gravity, the weaker the spirit is. Absolute alcohol has a specific gravity of 0.794.

J. D. T.

Origin of the Washoe Pan Process.

Editors Press:—In your last week's issue you stated that Mr. Almarin B. Paul first introduced the "Washoe Pan Process." Permit me to say that this is an error. It is true that that gentleman brought pans for amalgamation to Washoe in 1860 or 1861, but pans for amalgamating purposes had for eight years previous, at least, been as plentiful as blackberries in this State.

What is known as the Washoe Pan Process, was first introduced by the late Captain Hatch, at Col. Trench's mill, in Silver City, about the same time as that above mentioned, and was then known as the "Hatch Process."

Captain Hatch having carefully observed the working of similar processes, during a lengthened stay in Mexico, studied the subject, and first introduced substantially the same process in Washoe, but with some modifications and alterations.

About the end of the 16th century, Alonzo Barba, a priest of the city of Potosi, in South America, a man of inquiring mind and undeniable industry, originally discovered and perfected this method. Two hundred years later it was introduced into Europe, and it was the origin of the Freiberg Process.

The ores best adapted for this process are chlorides, bromides, iodides, iodio-bromides, oxides, and some sulphurets of silver, native silver and amalgam.

Its *advantage* is the production of a very pure silver in a shorter time than by any previously known process. The loss of quicksilver, where carefully attended to, is not greater than in the barrel process.

Its *disadvantage* is the heavy loss of silver in *mixed* ores; compound sulphurets, arsenides, etc., not being decomposed, are only recoverable from the "polvillos" or concentrated tailings.

The method of working is this: The pulverized ore is boiled with a solution of common salt in a copper vessel, or wooden vessel with copper bottom, the mixture being constantly stirred; quicksilver is gradually added; gentle ebullition is maintained for some time longer, and the amalgam washed and strained as usual. Where cupreous pyrites are not present, it is advisable to add during the operation, sulphate of copper, or its equivalent.

Thus there is nothing *new* in the Washoe Pan Process, save its introduction here, and that is due, as I have mentioned, to Captain Hatch. "Let justice be done, though the heavens (and some folk's pretensions) fall." This claiming by individuals of the discovery of old, though not generally known methods, is about played out.

J. S.

Railroad Items.

Utah Annexed.—It was on the 18th inst. that the Union Pacific tracklayers and the locomotive and advance cars hove in sight of Ogden. The welcome given them, the enthusiam manifested on all hands in an impromptu meeting, the running up of the United States flag by Col. Dan. Gamble to the strains of the Star Spangled Banner, presented a scene that must become historical, for the Mormons themselves participated. With a characteristic military-like brevity, the chief railroad builders, Warren, of the Utah Division, and Captain Clayton, the tracklayer, though greeted with all the honors, and loudly called upon to make speeches, both declined to detract in that manner from the eloquence of the event, the greatness of which lies so significantly in action, not words.

Salt Lake City Branch and Rival Metropolis.—J. W. Fox, Territorial Surveyor, and J. A. Young, left Salt Lake City, March 9th, to ascertain the feasibility of taking the branch railway between this city and Ogden from Haight's Bench to Farmington Bottom, and from Ogden Bottom on to Wilson Bench. This project is called "Brigham's Grand Coöperative Bulls'-Eye Railroad Company," by the Salt Lake *Reporter*, which says the Mormon organizer has not yet obtained the right of way from the United States. For several days after the departure of the surveyors, there was, says the *Reporter*, "a great rush to Bear River crossing, north, the great attraction being corner lots and good business locations in the new town which the railroad company, it is said, will soon lay off in that vicinity. It is confidently expected that the site of the great commercial metropolis of the Rocky Mountains will soon be determined upon. We are informed that it is extremely difficult to obtain passage in the stages, as enough persons have hooked themselves to load the coaches during the next two or three days."

Sacramento as a Railroad Center.—Sacramento is in semi-daily railroad communication with San Francisco on the west, Folsom and the Cosumnes on the east, with all points on the line of the Central Pacific Railroad, in daily communication with Marysville, and with San Francisco by steamers running to all points on the Sacramento River as far as Red Bluff.

The Rocky Mountain Snows.—A month's blockade on the Union Pacific, which seems to continue still, has lowered "stock" on that road, and furnishes the newspapers with a good text to write about southern routes. Though Durant has exhibited very remarkable energy in getting the Union Pacific road completed to Salt Lake, notwithstanding these difficulties, in winter, he falls far short of the excellent administration of the running management on the Central Pacific, where accidents and detentions in loftier and more difficult mountains, are scarcely heard of. Numbers of passengers on the Union Pacific are said to leave the railroad and proceed on foot. The Union Pacific snow-plow is 200 feet long, 10 feet wide, and about 11 feet high, four feet of the front flat running three inches above the rails, and then two molds, similar to the molds of a plow, form to a point within four feet of the front, which, when running at the rate of thirty-five to forty miles an hour, often throws the snow over the telegraph wires.

Central and Union Pacific.—The Union Pacific is finished to Ogden. The Central Pacific is finished to within about ninety miles of Monument Point, or the north end of Salt Lake—leaving about 170 miles of the continental railroad uncompleted. To reach Monument Point, the Union Pacific has about eighty miles of track to lay. The Central Pacific is laying three miles one day and four and a half the next; the difference being caused by an extra train of material coming forward on alternate days. The Central has its grading completed to Monument Point.

The Virginia City Railroad.—The *Herald* of March 15th says: Work is being vigorously prosecuted on the first section of the Virginia and Truckee Railroad, and the road from Carson or Empire to Virginia, will be completed and in running order by December next. Thereafter the most of the coarser grades of ore will be taken to mills on the Carson for working; and so soon as the road is extended to Washoe and the Truckee, the probabilities are that there will be but little mill work done in Storey County. But employment in Virginia, Gold Hill, American Flat and Flowery, will be afforded to three or four thousand more miners than the number now engaged.

Oroville and Virginia City Railroad. We learn from Chief Engineer Stangrooms, who passed through this city yesterday, says the Marysville *Appeal* of March 12th, that ground will be broken immediately on the Oroville and Virginia City Railroad. Work will be commenced as soon as a laboring gang can be organized, near Oroville, and it is hoped that it means work, not show. We understand that the preliminary survey, which was completed some time ago, will be adopted with slight variations. There have been so many suspicions raised against this road that it will require straightforward work to regain confidence sufficient to satisfy the people that it is a *bona fide* railroad building.

Western Pacific.—The *Bee* says that this road, from the turn it makes at Brighton, five miles east of Sacramento, is as straight as an arrow to the Cosumnes and beyond it all the way to Stockton, and almost as level as the surface of a lake. Forty miles per hour can be made on it all the way to San Francisco with ease. It is substantially constructed, the sleepers being heavy and close, the rails 65-lb iron, fastened together by the Fish joint. At present a daily train runs to the Cosumnes, a distance of eighteen miles from Sacramento, but the road is not yet ballasted. The intention is to make this the best piece of running road on the continent for time, if steam and skill can do it, and it is to bring San Francisco and Sacramento nearer to each other than they have yet been.

Stockton and Tejon Pass Railroad.—Mr. Cole has introduced a bill in Congress granting lands to aid in the construction of a railroad from Stockton to connect with the Southern Pacific Railroad near Tejon Pass. It authorizes the construction of the road by the Stockton and Tulare and the Sycamore Bend and Tejon Pass Companies conjointly, and besides the right of way, etc., grants ten alternate sections of unoccupied, non-mineral lands per mile on each side of the line. The bill will not be acted on this session and must be revived in the next Congress.

Stockton and Tulare Railroad.—The Stockton *Independent* of the 10th inst., intimates that "some new light has dawned" in regard to this enterprise, and that the plans of the directors were about to take definite shape, and their immediate intentions be made known. On the evening of that day, at a railroad meeting held in the City Hall, Messrs. Gray and Peters, two of the trustees of the company, stated that iron and ties for the road had been purchased, and that the iron is now on the way from the East. The company have secured a line for the road to the Stanislaus River, and have set their grade stakes for twelve miles from town. They are, however, not receiving such encouragement from the citizens of Stockton in the way of subscriptions to the stock as they expected, and as they think they have a right to demand. The original incorporators of the road consisted of ten men, who each subscribed $10,000, making $100,000. In addition to this, the citizens of Stockton subscribed $49,000, and thus the total subscription to the stock is now but $149,000, a sum insufficient if all in the hands of the company, to complete the road for twenty miles from the city this season.

Dr. Holden, President of the Stockton and Copperopolis Railroad Co., has issued a neat little pamplet of fourteen pages, in which he sets forth the advantages to be derived from the building of the road, and presents some elaborate statistics concerning the resources of San Joaquin, Calaveras, Alpine, Tuolumne, Mono, and Stanislaus counties.

The Oregon Road is working its way down to the California line, *via* Umpqua and Rogue River valleys. The surveyors and graders are now at work in the Umpqua valley, near Oakland, and it is expected the road will enter the Rogue River valley in the vicinity of Table Rock, near Rogue River. It will strike the Klamath probably at Bogus. The Yreka *Journal* says: Yreka is the most central point on the direct route of the railroad and depot for Scott Valley and Klamath, Del Norte and Trinity counties, and will also be the most central depot for all the Klamath Lake country business between this place and Surprise Valley. The road will run from Red Bluff up the Sacramento river to within a few miles of Shasta, thence to Soda Springs, thence through Shasta Valley to Yreka, following out the Oregon road to Bogus, probably through Hawkinsville.

The Oregon East and West Side roads are in Congress, vigorously contending for the land grant made to Oregon by act of 1866. Delay in the construction of the Oregon and California road, will be the only result, so far as the public are interested.

The citizens of Pacheco, Contra Costa Co., held a meeting on Monday, March 8th, with a view to the construction of a Tram, or Railroad, to deep water, near Bull's Head. The project was determined upon, in a decisive manner.

A railroad has been surveyed from the Soquel Landing, several miles up the Soquel Creek. A company is in course of organization, with $50,000 capital, for the burning of lime. Rumor says the money men are talking strongly of erecting an elevator on the beach.—*Sentinel*, March 6.

Berkley College Horse Railroad.—The Oakland Horse Railroad Company have received the material to complete their road from the foot of Broadway, Oakland, to Temescal Creek. As soon as the college buildings are completed at Berkley, the road will be completed to that place.

Branch to Vacaville.—The citizens of Vacaville are about building a branch railroad from that place to connect with the California Pacific. This will make Vacaville an important grain and fruit depot.

The San Lorenzo horse railroad, now mostly graded, will open up the lumber region on the upper San Lorenzo, now unavailable through lack of transportation.

The Patent System in Germany.—The Prussian Government has made the proposition to the North German Confederacy to abolish the system of protecting any specific industry by granting a patent to the inventor, and it is very probable that the North German Reichsrath will concur in the views of the presiding Government. In Germany the patent system has not proved productive of any of the beneficial results for which it was originally established. It neither stimulated inventive genius to a noteworthy extent, nor has it proved advantageous to the public in general. Even the patentees themselves complain that the character of a patented invention did not materially augment their profits above what they would have realized as the original manufacturers of a patented article. On the other hand, the proportion of patents granted, for instance, in Prussia, is not quite one-ninth of those granted in the United States; the examination of any new method or contrivance for which a patent is claimed being so scrupulous in Prussia, that 87 per cent. of all applications is rejected. The abolition of a patent system, therefore, is an infinitely smaller affair in Prussia than it would be here, where immense fortunes are realized in consequence of it, and innumerable trades established on the perpetuity of the present system. *Ex.*

The Weight of Hydrogen.—The lightest substance in nature is hydrogen. The next lightest is marsh gas. But that is as much heavier than hydrogen as iron is heavier than water. Some idea of the extreme lightness of hydrogen may thus be arrived at.

New Photographic Paper.—The new paper of Messrs. Shaeffner & Mohr is sensitized by carbonate of silver. Ammoniacal vapor is used as the reducing agent.

Mechanical.

THE SMALLEST STEAM ENGINE IN THE WORLD.—A writer in a London periodical thus describes a minute model of the engines of the steamship Warrior,—made by Thomas Smith: "This tiniest working model in the world is now in the possession of John Penn (of Greenwich), the eminent maker of the great engines of which it is the infinitely reduced counterpart. It will stand on a threepenny-piece; it really covers less space, for its base-plate measures only 3-8th of an inch by about 3-10th. The engines are of the trunk form introduced by Penn; the cylinders measure 1-8th of an inch diameter, and the trunk 1-20th. The length of stroke is 3-40th of an inch. They are fitted with reversing gear, and are generally similar in design to the great machines with which ships of the Warrior class are equipped. From the extreme smallness of this model a few minutæ—such, for instance, as the air pumps—have necessarily been omitted; there is a limit beyond which human skill and minuteness cannot pass. Still, so small are some of the parts that they require a powerful magnifying glass to see their form. The screws which hold the members together are only 1-80th of an inch diameter, and these are all duly furnished with hexagonal nuts, which can be loosened and tightened by a Liliputian spanner. The whole weight of the model is less than a threepenny-piece. It works admirably, and when working its crank-shaft performs from twenty to thirty thousand revolutions in a minute."

HARDENING AND HAMMERING.—*Van Nostrand's Engineering Magazine,* has a translation of an article upon steel from "*Gruner in Annales des Mines.*" The writer attributes the effect produced upon steel by hardening, or by hammering, not to the fact that they facilitate the combination of the carbon with the metal, but that they prevent the separation of these two substances already combined. He says: "The molecules of soft bodies require a certain time for motion." "If the body is suddenly cooled, the carbon cannot isolate itself. In my opinion, hammering causes the same result, because it prevents the iron and the carbon from crystallizing, as it were, separately, in cooling, but forces all parts with great power into and through each other. A proof of the want of harmony in the effects of hardening and hammering lies in the fact that hammering increases, while hardening decreases, the specific gravity of steel."

WOODEN RAILROAD.—The New York *Stockholder* gives part of a letter from the President of the Clifton Iron Co., describing its road as follows: "The rails are of hard maple scantling, 4x6 inches, set on round ties, on which are framed slots 6x4. The rails set on edge and keyed in the slots by two wooden wedges driven against each other, project two inches above the ties. The rails admit of bending sufficiently to make the curves. The ties are laid on the earth and ballasted in the usual manner to two inches of the bottom of the rail. It takes 21,120 feet, board measure, of scantling for a mile, and 1,760 ties at three feet apart. Our road is a very rough one. We have a great deal of trestle-work, some of it over thirty feet high, which is vastly more expensive than a level route. The engines used weigh from ten to fourteen tons. The rails will probably last about five or six years. An engine will move about thirty tons of freight at about six to eight miles an hour, with heavy grades and sharp curves. The company expects to move over the road next year from 50,000 to 100,000 tons freight. Trains have passed over the road, light, at the rate of twenty miles an hour; but this would not do for freight."

HEATING AND COOLING SURFACE.—The heat-transmitting power of boiler surface varies as the square of the difference of temperature between its opposite sides; and it has been found experimentally that a square foot of *freely exposed* cooling surface (such as that of the main steam pipe) has about one-fifth of the heat transmitting power of the heating surface, on an average; or supposing that in a given boiler the areas of heating and cooling surface are equal (which is very seldom the case, however), the effect of the latter, if freely exposed,—that is, not properly lagged,—would be to reduce the evaporative efficiency of the boiler twenty per cent.—*Artisan.*

NEW PROCESS IN ELECTRO-METALLURGY. The *Mechanics' Magazine* describes an improvement, recently patented, by which silver is directly deposited upon iron and steel surfaces, without an intermediate coating of some other metal, as has heretofore been thought necessary: "The surface of the iron is purified by nascent hydrogen, the hydrogen being produced by the electrolysis of hydrate of potash and soda. With care no other salt need be added to this solution, but in manufacture it is expedient to add a small quantity of one of the compound cyanides; those preferred are the nickelo or cobalti-cyanides of potash. If care be not taken to regulate the current of electricity according to the strength of the solution and the number of articles in it, as well as the heat of the solution, sodium will be deposited on the articles as well as hydrogen, and if transferred to the silver solution with that on, the silver will not adhere. The compound cyanide prevents that. When the article is coated with silver it is subjected to a heat of between 400° and 500° Fah., so as to fix the silver, and after that it will stand a red heat without injuring the coating. Knife-blades and all cutting instruments are silvered at a pale straw temper, so that the burning in or fixing of the silver may bring them down just to a proper cutting temper.

ENAMELING OF IRON VESSELS.—The usual method of coating iron vessels has been by sprinkling a fusible enamel, in powder, over the highly heated surface. But this coat will not withstand acids. A new French process is thus described: The metallic surface is brought in contact with the ingredients of ordinary white glass, and heated to vitrification; the iron is said to oxidize by combination with silicic acid, and the glass thus forms one compact body with the metal. The coating of enamel may be laid on as thinly or as thickly as desired. Experiments are being made in coating the armor plates for ships in this manner.

TEMPERING TAPS.—George Jones sends the following to the *Scientific American:* "Most of your readers are aware of the difficulty in tempering taps and reamers without springing, especially long and large ones. To accomplish this let the blacksmith select his steel for the job and forge the tap with a little more than the usual allowance, being careful not to heat too hot, nor to hammer too cold. After the tap or reamer is forged, heat it and hold it on one end upon the anvil. If a large one hit it with the sledge, if a small one the hammer will do. During this operation the tap will give away on its weakest side and become bent. Do not attempt to straighten it. On finishing and hardening the tap it will become perfectly straight. If any are doubtful a simple trial will convince them."

METALLIC CEILINGS.—A system of metallic ceilings, which consists in the application to the joisting of very thin stamped metal, in ornamental embossed panels, has lately been invented. These stamped panels are fitted for every kind of decoration in color, and if inserted as plain surfaces, may be used for the ground for every description of cartoon painting, combining with lightness and durability, artistic and ornamental effect, at a comparatively small cost.

AN OLD PLAN REVIVED.—A steam driving-wheel for canal boats is being adopted on the Erie canal, constructed upon an old-fashioned plan. It is placed in the middle of the boat, and rolls on the bottom of the canal, being armed with spikes to give it a firm hold. It is so arranged as to rise and fall, and thus accommodates itself to the uneven bottom. The speed attained is two or three miles an hour.

WHAT IS STEEL?—Pig iron, the raw product of the reduction of the ore, may be hardened when chilled quickly. Wrought iron is malleable either cold or hot, but cannot be hardened. Steel may be hardened, although malleable. There is a continuous line of products in iron manufacture, from the lowest to the highest; each merging into the next. It is not an easy matter, therefore, to draw the line distinctly, and answer the question, "what is steel?"

Scientific Miscellany.

THE HADROSAURUS.—A huge reptile, 25 feet long, and 14½ high, with a tail 12 feet in length, has been restored by Professor Hawkins, and was exhibited before the American Institute in New York, on January 27th. Portions of the skeleton were found at Haddonfield, New Jersey, and the parts which were wanting were supplied after many months of study, by Professor Hawkins. It was first described by Joseph Leidy, of Philadelphia, who named it the *Hadrosaurus Foulkii,* in honor of W. P. Foulke, of the same city, through whose efforts it was exhumed; he having employed men expressly to search, in consequence of the report of the discovery of a number of large vertebræ, some twenty years since, at the spot in question. The bones were found at a depth of nine feet, imbedded in a stratum of tenacious bluish black micaceous clay, in association with a multitude of shells, an echinoderm, several small teeth and vertebræ of fishes, a coprolite, and some fossilized coniferous wood. Mr. Leidy considers this enormous reptile to be allied to the Iguanodon. It will be placed in the Central Park, together with the remains found with it, in a special saloon to be prepared for the purpose.

DISTILLATION OF HYDROCARBONS UNDER PRESSURE.—In *Silliman's Journal* for Jan., S. F. Peckham gives the result of some experiments made by him in the distillation of California hydrocarbons for the State Geological Survey. The volume of Reports of that Survey on "Economical Geology," containing these results, is,—he says,—"now ready for the press, but its publication is delayed by the failure of the last California Legislature in making the necessary appropriation." The yield of illuminating oil from these dense petroleums, is by the ordinary method of distillation very small, but when by distillation under pressure, they are subjected to what is technically termed "cracking,"—it is largely increased. With a pressure of between thirty and forty pounds to the square inch, a percentage of illuminating oil as high as 60 was obtained by him from crude material which yielded only 20 per cent. by the ordinary method.

HYDROGEN.—When the announcement of the recent experiments of Professor Graham upon the metallic nature of hydrogen was made before the French Academy, M. Wurtz reminded that body that he discovered a compound of copper and hydrogen twenty years ago. This compound was $Cu^2 H$, and was a result of treating sulphate of copper by hypophosphorous acid. With other metals he failed, *except with palladium;* the chloride of which, treated with the same acid, gave a *hydruret* of palladium, in powder; but as it soon gave off its hydrogen, he neglected to record the fact.

OPALS.—At a meeting of the Lyceum of Natural History, in New York, January 18th, the subject of opals was introduced. Professor Eggleston, of the School of Mines, stated there were two kinds of opal, the Mexican, or soft opal, and the precious opal, which retained its luster for a century. He had noticed a curious property of these stones, viz: that the Mexican opal showed its "fire" according to the dampness of the season, being dull in dry weather. The effect of putting a drop of water on the stone was to make it quite iridescent. The peculiar appearance of the stone was caused by the decomposition of light in its microscopic fissures. He was not prepared to state what effect the action of the water had on this decomposition. It was certain it had some. In fact, he considered it indubitable that the opalescence, under the circumstances he mentioned, was caused by hydration. In the precious opal the fire was lost by handling. He had been engaged on some experiments to ascertain how it might be restored. Heating would not do. He had found alkaline solutions useful in restoring it. He had used cyanide of ammonia with good effect.

NEW FORM OF PERMANENT MAGNET.—Frederick A. Paget, C. E., communicates to the *Philosophical Magazine,* an article upon artificial magnets, from which we extract the following:

"Without any distinctly given reason, it is taken for granted in all works on magnetism, and in all the practical applications of mechanism, that it is impossible to magnetize a plate except in the direction of its greatest length. Dr. Lamont, in a paper communicated to the *Philosophical Magazine,* for November, 1861, by the Astronomer Royal, investigated the question of the most advantageous form of magnets. In all the forms he experimented upon the breadth was always less than one-third the length, and generally about one-fifth, and he does not seem to contemplate the possibility of magnetizing a square plate, and still less an oblong plate, in a direction transverse to its greatest length. Now I find that by cutting slits nearly up to the middle of a steel plate, a square plate in one piece can with such slits be regularly magnetized, and by this means even an oblong square plate can be regularly magnetized, and with as many poles as may be required in a direction transverse to its greatest length. I herewith forward a square plate magnetized in this way. It is of watch-spring steel, 0·0075in. thick, and ⅞in. + ⅞in., it has four pairs of slits ¼in. wide cut from its edges, and leaving a central web ¼in. wide uniting the whole. On moving a small needle round this square plate it is seen to be regularly magnetized, and on sprinkling iron filings on the magnet, covered by a sheet of paper, they arrange themselves in lines, proving that the magnet really consists of a number of small regular similar magnets, arranged below each other in the same vertical plane. On suspending an oblong magnet of this kind, with its longer axis in the vertical plane, the needles set themselves to the magnetic meridian; on suspending it flatwise, with its longer axis in the horizontal plane, the longer axis points east and west. As well as can be judged by subjecting them to slight shocks, the magnets are as permanently magnetized as if they were separate from each other. Only time can prove whether they will lose their magnetism."

CORRELATIONS OF ELECTRICAL FORCE.—D. G. Fitz-Gerald, in *The Engineer,* in the course of a demonstration in reference to the calorific and dynamic equivalents of electricity, states the general law "which has been verified in the case of most other metallic elements, and which probably applies to all elementary bodies, with the exception of oxygen, viz: that 'an equivalent of any element, in combining with a given body electro-negative to it, liberates the same quantity of electricity.' What, in fact,—he says,—is termed the 'chemical equivalent,' 'equivalent weight,' or 'combining proportion' of a body, in contradistinction to its 'atomic weight,' 'is that weight which is associated with, or which by combination evolves a constant quantity of electricity. Equivalents of platinum, copper, zinc, and potassium, are of very different value as electromotors, yet they are each combined, in their metallic state, with the same quantity of electricity. The value of a metal as an electromotor, or positive element of a voltaic couple, is, theoretically, and also generally speaking, commercially, proportionate, not to the quantity of electricity associated with a given weight, but to the quotient of the calorific equivalent by the atomic weight; in other words, this value, for an equivalent of any metal, is as the calorific equivalent. The practical value of an electromotor is in fact its capacity to produce, not electricity, but electrical effect or work; and the dynamical or calorifical value of any quantity of electricity is as the quantity of energy stored up in it, or the electrical force which we have to correlate with the various other modes of force."

BAROMETRIC FLUCTUATIONS.—At a recent lecture upon the barometer, before the American Institute, by Professor Guyot, he stated that there was a yearly, monthly, daily and even hourly fluctuation, the tidal wave of the atmosphere rising highest in the morning about nine o'clock, then falling, rising again in the evening, till about ten o'clock, and again falling during the night, the difference between the maximum and the minimum being about two hundredths of an inch. The regular variations might be called great tides, the irregular variations the tidal waves, the barometer falling and rising all the time, a stationary condition being very rare. These irregular variations predominate in our latitudes, but die out gradually as we approach the tropics.

White Pine Items.

By a private letter from Shermantown, or Silver Springs, dated March 11th, we are informed that the weather in that sheltered spot has been severe for only a day in the conrse of the winter; that building is progressing as fast as lumber can he obtained; that every stone in the country is about to be overturned, people arriving at White Pine by thousauds; that there are two quartz mills, two smelting works, and a sawmill at Shermantown. One of the smelting works was to start shortly, and the other was "trying experimeuts." The mills are running night and day; two more are in progress of huilding, and there is obtainable ore enough for about fifteeu mills.

THE White Pine excitement is on the increase as spring approaches. The stages in Nevada are said to be crowded every day and passengers booked a week ahead. * * Mr. Oscar, of Virginia City, who returned from White Pine on the 15th, says that he found the road betweeu Hamilton and Elko completely lined with adventurers, rushiug out to the "poor man's paradise"—some in coaches, some on horseback and some on foot, with their blankets on their backs. A few men have arrived from the Atlantic States. * * The Portland *Oregonian* of the 6th, says: There is a great deal of talk in this city about going to the White Pine mines, and we learn that a similar state of things exists up the valley, especially in the various towns. A good many will doubtless go from Oregon iu the course of the season. * * On the 12th inst. five plucky Frenchmen from California passed through Anstin, packing their blankets, baggage and grub, on their way to White Pine. By the time they had crossed the mountains they were out of money, so they stopped at Carson three weeks to earn euough to carry them through.

On the shady side of the question, Dr. C. C. Green, of Virginia City, writes: You no doubt hear men saying that White Pine will far surpass Virginia in point of wealth and greatness as a mining region, but it is my opinion, after a careful examination of the country, that there is not enongh ore in sight, or even in prospect, to keep the present population in bread and whisky for the next two years, to say nothing of the thonsands who are preparing to come next spriug. That the ores of this district are of a very high grade cannot of course be denied; but the quantity of ore to sustain a large mining population is not here. Mines, or what are called mines, are not numbered by hundreds, but by thousands, and the ore taken out is not computed by tons, as in Virginia, but by pounds. Every man you meet is a millionaire in his own estimation—and is on the sell.

ALBERT S. EVANS writes to the *Alta*, dated March 13th: A rich strike was made in the Phœnix mine, on Chloride Flat, yesterday, and similar developments are being msde in other claims in the vicinity. The finest ores I have yet seen, outside of the Eberhardt, was taken a day or two since from tbe Colleen Bawn (a private claim), ou Bromide Flat. It is almost solid silver. The workmen in the Governor Bross (square location), on the same flat, last evening, blasted through the limestone into the spar and "got the color" at once. They think they are nearly down iuto the main deposit of rich ore, which is known to run through their gravel.

PILGRIM, tbe *Bulletin* correspondent, says of the Eberhardt: There are strata pockets of chloride which will run from $1,000 to $20,000. There are horses of limestone and spar in the vein the size of the old *Bulletin* office, and encircling these are rich chloride shells. The south wall is rough and not well defined, and pitches slightly towards the north or foot wall. Such was the case with the Comstock, and after goiug down it turned parallel with tbe other.

Of the Keystone, now consolidated with the Eberhardt, he says: The north wall is as smooth as polished marble the entire distance, and as true and straight as a bee line. Every miner who has seen it pronounces it the most perfect and truest foot wall in this State. It has about an inch of soft clayey substance common to most fissure veins. It is 183 feet between the walls. The hanging wall will undoubtedly turn a few feet down and dip parallel with the foot wall. We estimated that there is in sight, making liberal allowances for horses and waste, at least $8,000,000.

THERE are recorded in White Pine District at the present time over 3,000 claims.

T. CAHILL & BRO., the assayers, have made over 1,300 assays, running from nothing as high as $21,000. A great many run as high as $5,000. The average of all the assays is $130.

THE late Base Range discoveries have turned out very ordinarily. Half a dozen men only are left on the flat at work opening a claim or two. The crowd has dispersed—gone, our informant says, "Heaven knows whither."

ON the 11th inst., the air was warm, says the *Alta* correspondent, as it usually is at this season in the Bay City, say 60° to 65°, and the snow fast disappearing. It has, in fact, already left all the exposed hillsides and slopes, and even on the northern slopes it is growing thin. Prospecting is consequently going on with a "perfect looseness," and everybody having aspirations that way is off with pick and shovel. At the rate that this work is going on the whole country will soon be prospected from the Humboldt to the Colorado. Later dispatches says that it is again snowing.

THE same correspondent says further observation has confirmed his belief in the existence of a continuous ledge running from the Hidden Treasure northwestward along the western side of Treasure Hill down to a point just west of Hamilton, in the vicinity of the Featherstone, Echo, and Excelsior mines, for a distance of two miles and a half.

BEACH & HENDERSON have left Los Angeles with a flock of sheep for White Pine.

POCOTILLO is the name of a new town site on the slopes of Treasure Hill, where lots are advertised for sale.

GREENVILLE is the name of another prospective rival of Treasure City. It is being laid out on the strength caused by rich discoveries in the Base Metal Range.

SPEAKING of the developments of Treasure Hill, the editor of the White Pine *News*, (we recognize the able pen of Myron Angel) writes: Whether its prototype in history is known or not, we cannot at present tell, but the nearest like it, in its discovery, isolation, wealth and character, seems to be the great peak of Potosi in South America. That lofty peak of the Andes, described as reaching some 13,000 feet into the sky, is, from where it rises above the surrounding mountain gorges or valley, some ten miles in circumference, and its silver, as every school-boy knows, was discovered by an Indian, who, in pursuit of a goat up the precipitous, rocky sides, grasped a bush to aid him in his ascent, and this giving way at the roots, exposed some glittering silver beneath. This was several centuries ago, and since then countless millions of the precious metal have been extracted from that single mountain, until it is but a honey-combed shell, and it is not yet exhausted of its treasure. Treasure Hill is isolated like Potosi, is of similar formation, of equal size, or perhaps a little larger at the base and not quite so high; its mines are of Indian discovery, and its future promises equal brilliancy, and equal if not superior in wealth. Two years since, a degraded and starving Indian carried to a camp of miners a piece of the ore from the locality of the Hidden Treasure mine, and this led to the exposure of the wealth of Treasure Hill. In the explorations following, quantities of pure silver were found where trees had fallen and burned, or where the Indians had built fires on the beds of chloride ore, reducing the easily smelted rock. Such discoveries, made in different localities, created a wonderful excitement, and plainly indicate our unexampled wealth. Following the discovery of the ore which crowned the summit, came the discovery of the great Eberhardt deposit, or vein; then those of Chloride Flat, Pogonip, Sunny Side and the "Base Range," all most surprising in their wonderful richness. The geological formation of the mountain is as singular as its riches are rare. It is an isolated peak of fossilliferous limestone, overlying silurian rocks at a great depth, and these having a foundation on others of more primitive age. Into the crevices, caves and chasms of the limestone, or in displacements occasioned by the action of thermal waters rising from the primitive and silurian rocks, were deposited the lime, silica, spar and ores which now constitute the mines and veins of the hill. By such process of change has been formed that singular feature of mineralogy—fossilliferous quartz. The limestone has been carried away by the action of the water, while all its features, the form and character of its fossils, have been preserved in the obtruding silica. These crevices, chasms, caves or displacements, are in every portion of the hill, and of every size, from that of a bull's eye to that of the mammoth chasm of the Eberhardt.

GREAT competition between the Pacific Union and Wells, Fargo & Co. Express Companies, reduces the present running time between Elko and Treasure City to 18 hours. Mr. Grim, President of the Pacific Union Express, thinks of running a pony express from Elko.

MUCH lumber is still being shipped to White Pine from the Carson and Truckee mills. It commands a more ready sale in that region than any other article.

THE weather being fine, writes Mr. Jack White to the Gold Hill *News*, and the snow disappearing rapidly, nearly everybody is out during the day prospecting. In the evening the saloons are crowded and the faro, keno and monte tables do a thriving business.

PLENTY of White Pine stock is for sale in San Francisco—offices having been opened, the mining secretaries flourishing again, and newspapers containing advertisements accompanied by special notices indicating the road to fortune.

California Academy of Sciences.

A regular meeting of the Academy was held on Monday evening, March 15th., the President, Dr. Blake, in the chair. Dr. Spencer, of San José, was elected a resident member.

ARTESIAN WELL BORING IN SAN FRANCISCO.

Gregory Yale presented a specimen of copper pyrites taken from the artesian well boring at Francis & Valentine's establishment, on Commercial street, at a depth of 208 feet. It was found not in a regular stratum, but in a drift intermingled with pieces of flint and pebbles, showing the drift of a subterranean stream. Some specimens of shell and wood were also brought up from the well. The water had come up to within fifteen feet of the sidewalk.

Dr. Blake remarked that other attempts had been failures; that in one instance a stratum of rock was encountered which was bored through some forty feet, when no water appearing the project was abandoned. The same result attended the attempt to bore an artesian well in Portsmouth Square some years ago, by the city government.

MORE ABOUT THE MEAT SHOWER.

Dr. Cooper having called on Dr. Kellogg for further information on the subject of the shower of meat, Dr. Kellogg remarked that he believed the statement of the witnesses of the phenomenon to be reliable and correct, and read a communication from W. Frank Stewart stating that instances had been known, especially during the drouth of 1863, of flocks of buzzards having gorged themselves with the meat from dead cattle, and then disgorging it upon the plain.

Mr. Bolander stated that Mr. Eloesser desired him to say that instances had been known in Italy of substances falling in this manner, which were mistaken for meat, but which proved to be vegetable matter—a species of fungus resembling decomposed flesh.

Dr. Blake said that the specimens had been carefully examined, and found to be flesh.

THE PETALUMA MASTODON.

Mr. Yale stated that he had corresponded with the discoverer of the skeleton of the mastodon lately found near Petaluma; the bones he said, were being removed and scattered, and the Academy ought to take steps toward preserving the remains. The head had been carried away, and other portions disturbed, but the vertebra were still in position.

Mr. Brooks remarked that the animal was said to have been horned, but that more probably these were tusks.

Dr. Cooper said the animal was probably either an elephant or mastodon, and the tusks had been mistaken for horns.

Mr. Yale said a similar discovery was made last year in the vicinity of the Mission of San José.

Dr. Copper stated that Mr. Hoffman, a member of the society, examined one of these animals discovered in the valley of San José, and that upon being exposed to the air, the tusks crumbled to pieces.

Messrs. Bolander and Yale were understood to agree to serve as a committee on the subject, with the purpose of visiting the spot.

SAN FRANCISCO EXPORTS.—The exports of merchandise from this city during the first half of the present month were $752,852. During the same period for 1867, the merchandise exports were $436,179; and in 1868 they were $569,796. This exhibit shows a most healthy and satisfactory increase.

DEWEY & CO.

U. S. AND FOREIGN

PATENT AGENCY

FOR THE PACIFIC COAST.

Office, No. 414 Clay Street,

SAN FRANCISCO.

Letters Patent.

A patent is an open letter, embodying all the language of an inventor or his agent, contained in the specification, without alteration, and is granted to citizens of the United States, or Foreigners, male or females, (including minors), and is signed by the Secretary of the Interior and the Commissioner of Patents, with the seal of the Patent Office affixed. Its jurisdiction is for the whole United States, for the term of seventeen years.

A patent right is personal property, and is assignable, but cannot be seized and sold on execution.

Caveats.

A caveat is a description of the invention designed to be patented, lodged in the Patent Office before the patent is applied for, and while the inventor is perfecting his design. When *properly* made, it operates as a bar to applications respecting the same invention from any other quarter; but when improperly done, it is inoperative by reason of such defect. The Patent Office always returns a receipt for caveat papers, but does not seek to point out its incorrectness, unless there be some glaring defect.

Our fee for a caveat varies from $10 to $15. The Government fee is $10.

What Claims can be Patented?

A knowledge of Ancient and Modern Mechanics and familiarity with American and Foreign patent issues and rejections, enables us to determine in a measure in all cases what can be patented, and how much can be claimed as new and novel, and be covered by Letters Patent. This is one of the most difficult questions encountered by both old and new inventors—one in which an experienced counsel is of great service.

Confidential Advice.

We invite consultation (in person or by mail) regarding new inventions, for which we make no charge. Communications kept inviolately secret, and honest and reliable advice given. Our permanent business interests guarantee, and the thousands on this coast who have consulted us will testify, to our strict compliance with our obligations to inventors.

Advantages of Our Agency.

Inventors on the Pacific Coast can sign the papers at once, and save at least two months' time in securing patents through our office. When desirable they can visit and give us personal explanations—better than written instructions.

We assist in bringing valuable inventions to the general notice of the public throughout the Pacific Coast by illustration or description in the columns of the MINING AND SCIENTIFIC PRESS.

From long experience in the business, and an intelligent and thorough understanding of the objects and peculiar characteristics of California inventions, we are able to present cases more intelligently to the Examiners at Washington than *any other agents*.

We guarantee inventors against losing their cases by delay, or the loss of their money in remitting.

Patents for inventors on this coast are actually secured cheaper through our agency than any other, however flattering may be the inducements offered at the commencement by others.

Extensive practice gives us great facilities, securing regularity in the transaction of our business, which extends to EVERY COUNTRY IN THE WORLD where patent laws exist.

Information for Inventors,

Printed in circular form, containing list of Government and other fees, sent free.

We draw up legal assignments for patentees; record assignments in the Patent Office; procure copies of United States and foreign patents; make examinations here and at Washington regarding the patentability of inventions; take up and prosecute rejected cases, depending upon success for our fees; reissues taken out; interferences prosecuted—in fact, every legitimate branch of the patent agency business is thoroughly conducted by us here and our branch agency in Washington.

California inventors should beware of placing their inventions and money in the hands of persons not well known as honest, responsible and capable.

Patent Office Reports.

We have the only complete set of U. S. Patent Office Reports (from 1844) on this coast; a full record of all patents issued since 1790; Record of British patents from 1801 to 1845, and full files of scientific papers containing illustrations and list of U. S. Patent Claims, forming the only extensive library of patent works west of the Rocky Mountains. We offer patentees and inventors the free use of these books at our office. The files of the MINING AND SCIENTIFIC PRESS contain the claims of the Pacific Coast Patents, and many illustrated descriptions of the same. We have also in our office *full copies* of a large majority of the patent cases emanating on the Pacific Coast.

DEWEY & CO.,

414 Clay street, below Sansome, San Francisco.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, March 20, 1869.

Financial.

From the Commercial Herald we take the following:

Since our last issue we have been favored with refreshing showers, which have greatly assured the farming community, and promise to crown their labors with an unprecedented harvest. As we write the pluvial bounties are becoming more copious and appear to extend over a wide field, with every prospect of an abundant supply. On the Sierra Nevadas and east of that range much snow has fallen, clogging the railroads and hindering communication with these districts. The Central Pacific Railroad is so pressed to transport its own effects in order to complete the enterprise at the earliest possible day, that orders have been received here to ship merchandise by the old-fashioned methods. It is unnecessary to explain that so soon as the railroad shall be completed all its available facilities will be placed within reach of the public. Large amounts of Eastern capital are finding their way here for early investment in White Pine mining and real estate stock, and we learn that vigorous efforts will be made to divert the trade of that section and Salt Lake from San Francisco. They must all prove vain, for there is nothing which Chicago or any other Eastern city can supply so cheaply as the Metropolis of the Pacific. Especially is this true in reference to all sorts of groceries, such as salt, spices, sugar, tea, coffee, soap, candles, and the like. In the matter of fruits, silk and woolen goods, lumber, machinery, etc., there can be no competition against us.

The North Pacific Transportation Company filed its certificate of incorporation in the County Clerk's office on the 13th of March. Its capital stock is $5,000,000, divided into 50,000 shares at $100 per share. The Trustees are Jesse Holladay, William Alvord, W. C. Ralston, Loyd Tevis, Alvinza Hayward and S. F. Butterworth. Its objects purport to be the transportation of passengers and freight on the waters of the Pacific ocean and all the rivers and bays accessible from it, and to transact all other business necessary to carry out the design.

The Commissioner of Immigration has obtained a satisfactory settlement of his claims upon various parties who have long contended against the collection of the State tax as being illegal. We understand that the claim against Koopmanschap & Co. was withdrawn on the payment of $20,000 by that firm. This was the last of the lot, with the exception of a claim against the Pacific Mail Company for the tax upon six Chinese, which has, by agreement, been referred to the Courts, to be settled upon the intrinsic merits of the case.

City Stocks.

Increased interest has been manifested in miscellaneous securities, and the sales during the period under review have been very considerable. Spring Valley Water stock sold to the extent of 395 shares at a uniform rate of $68 per share. San Francisco Gas stock was in the market at $78@77 50, and North Beach and Mission Railroad at $72@71 50. A few shares of Sacramento Gas Company stock were disposed of at $95 per share. The annual meeting of stockholders will be held at Wells, Fargo & Co's office, in this city, on the 30th inst. This company has been paying regular monthly dividends of ½ per cent. For California Steam Navigation Company stock 70 per cent. is bid. A dividend of 1 per cent. upon their capital stock was dishursed on the 15th inst. The last previous dividend was paid in October, 1868. The State Telegraph Company also dishursed a dividend of 1 per cent. on the 15th. This is announced as their tri-annual dividend. The last previous dividend was paid in July, 1868, amounting to $1 per share. At the annual meeting of the San Francisco Insurance Company, held on the 16th inst., John Archbald was elected President and R. B. Woodward Vice-President. This company is winding up its business, and these officers were elected in order to legalize the signing over of mortgages, etc., in their possession. The accrued earnings of the assets enables them to disburse a dividend of 2 per cent. per month on the first of April next.

Mining Share Market.

This market has been more or less demoralized since our last reference. Prices have been very generally irregular and fitful, effecting a serious decline in a number of stocks, while others have been barely able to maintain themselves under the strong "bear" pressure which was very observable. This state of things indneed many to let their stocks "slide," while others, who are commencing to operate in White Pine claims, also appear inclined to drop the Washoe line and brace themselves for a vigorous campaign in the new and more exciting speculative struggle soon to be inaugurated in our mining share market. Hundreds of White Pine companies have already been incorporated and additions are daily made to the number. Many have placed their claims in the hands of skillful manipulators, and it will be as well to scrutinize them closely. Non-speculative investers will probably look more to actual developments than verbal reports, and pay more attention to results than to anticipations.

Alpha—receded from $38 to $27 50, improved to $33, and closed at $31 25. On the 17th, the north drift under the east clay, on the 1,030 level, was in 15 feet, and the quartz is reported to look very favorable, but as yet shows no pay. There is a slight increase of water in the face of the drift.

Chollar-Potosi—has been in moderate request, selling at $166@157, and at the close realizing $161. During the week ending March 12th, 844 tons of ore were extracted. In the new tunnel the ore has been stoped for a distance of about 90 feet in length, varying in width from 8 to 20 feet. Up to this date it is reported there are no evidences that this deposit extends much below the tunnel level. In the shaft work was suspended at the 920 level on the 8th inst. The only drift now being run on the lower levels is at the 1,240 station, which extends 129 feet from the incline, and 500 feet east from the shaft. The rock is hard and there are no indications of quartz in any portion of it. On the 16th inst. 110 tons of ore were shipped to custom mills.

Crown Point—opened at $75 50, declined to $71 50, and closed at $71 50. Nothing of importance from the mine so far as we can learn. On the 18th inst. bullion valued at $7,754 49 was send forward from the Rhode Island mill. ....Gould & Curry sold at $100@109 50, and closed at $107 50. Work is now rapidly prosecuted at the bottom of the shaft, with the purpose of soon resuming the further sinking of the shaft.

Hale & Norcross—sold quite largely at an advance, rising to $98 on the 17th, and closing yesterday at $91. They are breasting ont ore on the fourth level, both north and south of the winze, and it is said to be of good quality, showing an average width of 5½ feet and 275 feet in length. The winze extending from the third level down, a depth of 130 feet, shows continuous ore within 15 feet of the third level, and is of an average width of about 8½ feet. From the fourth to the fifth level the winze is 53 feet in depth; ore good, and now five feet wide in the winze. A drift is being run to connect with the winze on the fifth level, and where the ore is cut on that level the vein is twelve feet wide and looking well. Since the annual meeting they have been extracting from 55 to 60 tons of ore per day.

Imperial—dropped from $103 to $85, and closed at $87. The work in the lower levels has not yet produced any favorable results.... Kentuck sold at $262@256, and closed yesterday at $260. The bullion receipts for the current month to the 17th amounted to $30,910. ....Overman declined from $66 to $55 and at the close sold at $51. On March account the bullion returns aggregate $5,061 43....Ophir sold within a range of $35 50@30, and closed at $29 50. On the 17th instant the drift was 91 feet in length from the shaft. Rock continues hard....Confidence sold at $32 50. The bullion yield to date on March account aggregates $7,929....Sierra Nevada sold at $32 50@35, and closed at $36. Receipts of bullion to date for March account, $7,339.

Amador—experienced a decline, a few shares selling at $260@265, and yesterday afternoon realized $272 50. We understand that the first clean-up for the present month will aggregate between $30,000 and $31,000 in bullion.... Belcher closed at $17 50. An assessment of $3 per share was levied on the 15th instant.... Golden Chariot (Idaho) sold at $50. The bullion yield for the month of February aggregates $43,027 24; in January it amounted to $45,630 88. A dividend of $2 50 per share is payable to-day.

Earthquake-proof Chimneys.—We noticed at No. 749 Market street three very large galvanized iron chimneys, the outside being an octagon shaft, with ornamental cap and base, fourteen feet in hight, with an average width of four feet. Within the shaft are four heavy iron flues to convey the smoke—the whole being firmly riveted and making a very substantial chimney. No external bracing is required, as the apparatus is held in place by angle irons attached inside the flues, extending down and fastened to the brick work of the chimney below the roof. It is thought by Messrs. Conlin & Roberts, by whom they are built, to answer all the requirements of an earthquake region. They are intended for Mr. Thos. H. Selby's gothic residence at Fair Oaks.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale.
Amador Co., div. $6 per share	Payable March 10, 1869	
Almaden, Nevada, March 17, $2	April 20	May 3
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co., Nev., March 15, $3	April 17	May 3
Chollar-Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12, 1868	
Chloride Mt. Tun., White Pine, Feb. 2, 50c	Mar 13	Ap. 1st
Coney, preferred Stock, div. 1½ per cent	March 10, 1869	
Cherokee Flat, Butte co, March 1, $5	April 3	April 20
Cordillera, Mex., March 16, $1	April 20	May 10*
Cons Chloride Flat, White Pine	Meeting March 24	
Daney, Lyon co. Nev., March 8, $2.50	April 12	May 3
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $5	Payable March 10, 1869	
Folsom St. & Ft. Pt. R. R. March 13, $5	April 13	April 30
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, div. 50c per sh	Pay. Feb. 26, 1869	
Glenwood, El Dorado co, Feb 19, $25	April 2	April 2*
Great Union, White Pine	Meeting March 29	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hope Gravel, Nevada co, Feb. 24, $1	March 29	April 19
Hidden Treasure, White Pine	Annual Meeting April 5	
I X L, Alpine co., Jan. 19, $1 50	Feb. 27	April 5*
Imperial, Storey co., Nev., div.	Payable June 20, 1868	
Julia, Storey co, Nev.	Meeting, March 25	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Keystone	Meeting April 2	
Lyon M & M., El Dorado co., Mar 6, $1	April 12	April 26*
Mt. Tenabo, Lander co, Jan. 23, 75c	April 2	April 27*
Maxwell, Amador co., Feb. 9, $1	March 13	April 1
Morning Star, Alpine co, March 3, $2	April 5	April 26
Mohawk & Montreal, Nev. co., $3	March 31	April 16
North Star, dividend, $5	Payable Aug. 15, 1868	
North Amer. Wood P. Co., March 12, $1	April 14	May 1*
Occidental, div. $2	Payable March 2, 1869	
Pacific Unassessable, div.	Payable June 18, 1868	
Pocotillo	Annual Meeting March 22	
Rising Star, Idaho, Feb. 8, $6	March 31	April 3
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring salt, dividend $1	Payable Jan 5, 1869	
Star Creek, Nev., Feb. 25, $1.50	March 29	April 19*
Savage, Virginia, Nev, dividend, $4	Payable March 4, 1869	
Treasure Trove, Lander co., Feb. 15, 20c	March 21	April 12
Troy Ledge, White Pine, March 16, 15c	April 23	May 24*
Virginia & G. H Water Co., Dividend, payable Mar. 10, 1869		
Yellow Jacket, div., $5	Payable March 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, March 19, 1869.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 87	87
United States Bonds, 5 20s, 1864	87	87
United States Bonds, 5-20s, 1862	88	89
Legal Tender Notes	77½	78
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855		
San Francisco City and County Bonds, 6s, 1858	83	87½
San Francisco School Bonds, 10s, 1860	100	
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1866	91	—
San Francisco City and Co. Bonds, 7s, 1862	83	87½
San Francisco City and Co. Bonds, 7s, 1864	91	—
San Francisco City and Co Bonds, 7s, 1865	91	—
San Francisco City and Co. Judg. Bds, 7s, 1863	91	—
San Francisco City and Co. Judg. Bds, 7s, 1864	91	—
Sacramento City Bonds	30	31
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	70
Yuba County Bonds, 8s	80	85
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	68	—
Spring Valley Water Co	67	68
State Telegraph Co	26	—
Gas Companies.		
San Francisco Gas Co	78	80
Sacramento Gas Co	85	—
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	72½	—
Central Railroad	50	—
North Beach and Mission Railroad	7 ½	73½
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	160
People's Insurance Company	100	—
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	126	128
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	100	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	81	87
Mining Stocks—Washoe District.		
Alpha	31	31½
Baltimore American	—	—
Belcher	17½	18
Bullion, G. H	15	16
Bon Pointa	71¾	72
Cole (Va.)	—	15
Confidence	32	35
Consolidated Virginia	....	....
Chollar-Potosi	161	161½
Daney	3	4
Exchequer	15	17
Empire Mill and Mining Co	60	70
Gould & Curry	117	118
Gold Hill Quartz	95	95
Hale & Norcross	94	91
Imperial	87	—
Julia	....	4
Justice and Independent	8	12
Kentuck	259	260
Lady Bryan	12	13
American	17	17½
Ophir	29	30
Overman	50	51
Segregated Belcher	8	8½
Savage	67	67½
Sierra Nevada	35	36
Yellow Jacket	62	62½
Union	—	—
United States	—	—
Miscellaneous Mining Stocks.		
Amador (California)	275	—
North Star (California)	—	—
Sun (California)	230	240
Golden Rule, California	10	12

San Francisco Market Rates.

Wholesale Prices.

Friday, March 19, 1869.

Flour, Extra, ₱ bbl	$5 25	@$5 50
Do. Superfine	4 50	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 65
Oats, ₱ 100 lbs	1 75	@ 2 20
Barley, ₱ 100 lbs	1 75	@ 2 25
Beans, ₱ 100 lbs	6 00	@ 7 00
Potatoes, ₱ 100 lbs	75	@ 90
Hay, ₱ ton	10 00	@18 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	11	@ 12
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	5	@ 7
Hogs, dressed, ₱ lb	9	@ 10

Groceries, etc.

Sugar, crushed, ₱ lb	—	@ 17¾
Do. China	10	@ 12
Coffee, Costa Rica, ₱ lb	—	@ 18
Do. Rio	16¾	@ 17
Tea, Japan, ₱ lb	75	@ 90
Do. Green	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 47½
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	35	@ 42½
Eggs, ₱ dozen	25	@ 35
Lard, ₱ lb	14	@ 15
Ham and Bacon, ₱ lb	14	@ 15
Shoulders, ₱ lb	7	@ 8
Retail Prices.		
Butter, California, fresh, ₱ lb	45	@ 50
do. pickled, ₱ lb	30	@ —
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	45	@ 50
Lard, ₱ lb	16	@ 18
Hams and Bacon, ₱ lb	23	@ 25
Cranberries, ₱ gallon	1 00	@ 1 25
Potatoes, ₱ lb	1¼	@ 2
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 6
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	10	@ 12
Peaches, dried, ₱ lb	10	@ 12
Oranges, ₱ dozen	75	@ —
Lemons, ₱ dozen	50	@ 75
Chickens, apiece	—	@ 75
Turkeys, ₱ lb	25	@ 30
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	21	@ 22½

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, March 19, 1869.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.

Scotch and English Pig Iron ₱ ton	$42 50	@$— —
White Pig ₱ ton	37 00	@ 38 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, 1 to 4	— 04½	@ — —
Plate, No. 5 to 9	— —	@ 04½
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¼
Sheet, No. 24 to 27	— 05	@ — 6½

Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	— —	@ — 26
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22

Tin Plates.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ 35
Steel.—English Cast Steel, ₱ lb	— —	@ — 15
Quicksilver.—₱ lb	— 55	@ — 60
Lead.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 15	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9½
Zinc.—Sheets, ₱ lb	— 10½	@ — 11
Borax.—California, ₱ lb	— 35	@ — 38

The Redemption of Tide Lands on the San Joaquin, at and around Sherman Island, is estimated by a correspondent of the Sacramento *Union*, at a probable cost of from three to five dollars per acre. When reclaimed they would be worth from twenty to thirty dollars per acre, with a prospective increase to forty or fifty. In very severe winters, like '61-'2, these lands would be flooded, but not subject to any currents. The dykes, dams, and ditches, used for reclamation, would remain uninjured, while the rich alluvial deposits of the flood would add additional richness to the soil. After reclamation the crops of grain and staple products would be certain every year. Rice evidently, ho says, could be cultivated on these islands. The soil is rich, and the means of reclamation would afford the same convenience and cheap process which have been long practiced in the Carolinas; that is to say, make the water do the work. Dams erected across the mouth of the sloughs would check the tide-water, and also form a reservoir from which the field of rice could be flooded at pleasure. No grain, on lands situated as these are, can be cultivated more cheaply than rice. It requires but a small quantity of seed for the crop, and, having the convenience of flooding the land, the principal cost is the gathering.

The Recoil.—The parties who thought to lessen the popularity of the Plantation Bitters by alleging that, under a different name, the same article effected the most astonishing cures in the West Indies thirty years ago, have afforded the world another proof that malice and envy often defeat their own objects, and give new prestige to that which they would fain discredit and destroy. The proprietors of the Plantation Bitters, Messrs. Drake & Co., while acknowledging the origin of the preparation, have had an opportunity of showing that, the rare elixir admitted, even by its interested enemies, to be so wonderfully potent before it changed hands, has had its remedial properties *almost doubled* by the addition of a new ingredient—Calisaya Bark—since it became the property of its present owners. If, therefore, it was so nearly infallible in cases of intermittent and remittent fever, dyspepsia, biliousness, etc., *then*, it must be *quite so now*.

Our Office.

The office of the Mining and Scientific Press is located in the second story at No. 414 *Clay* street, north side, just below Sansome. Here we have spacious accommodations, with our patent rooms, editorial room, counting room, newspaper and job printing offices,—all conveniently arranged and connected, and our facilities for dispatching business correctly and economically, better than ever before. Don't forget the number—414 Clay street, below Sansome.

DEWEY & CO.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

AMADOR COUNTY.

Jackson *Ledger*, March 13th: The new shaft at the Coney mine is gradually going down, and looks well. The timbering is done in a substantial and workmanlike manner, and presents an appearance of durability seldom seen in any mine in this district.

CALAVERAS COUNTY.

Mokelumne Hill *Chronicle*, March 13th: The weather continues warm and delightful—too pleasant, in fact, to suit the miners, who are complaining of the scarcity of water in those localities which are not reached by the ditch. The gulches are almost as dry as they are during the summer months, and those who had calculated upon late rains in the spring, to afford them facilities for washing the dirt accumulated, are venting their spleen upon the clerk of the weather.

Champion, Peters & Ahnert, have determined to re-open the old Union shaft, on Stockton Hill, and are engaged in perfecting preliminary arrangements. The mine has been abandoned for years and is filled with water.

EL DORADO COUNTY.

Placerville *Democrat*, March 13th: We are informed that the Crystal Lead Co., whose claims are near Brownsville, are now down 100 feet, and at that depth have a ledge three feet wide. From a ten days' run recently, they had thirty pounds of amalgam, worth $70 per pound.

Ninety tons of rock, recently crushed from the Stillwagon and Norton claim, situated near Brownsville, in this county, yielded $1,140.

FRESNO COUNTY.

Mariposa *Gazette*, March 12th: Nathan Harbert has just completed his new mill of ten stamps, for crushing the ore from his rich mine in Fresno county. He only awaits some necessary machinery already ordered from San Francisco. The rock from his vein will pay $80 per ton, which is surpassingly rich.

Marysville *Appeal*, March 14th: Eleven tons of copper ore were shipped from Stockton to San Francieco on Thureday. It was from the Buchanan mine in Fresno county.

KERN COUNTY.

Havilah *Courier*, March 9th: Col. A. A. Rand, as trustee, gives notice according to law that he intends to apply to the United States for a patent for the land on which the Relief mine is located.

MARIPOSA COUNTY.

Gazette, March 12th: A correspondent furnishes the following concerning the new mill recently finished on the Merced River by the Mariposa Co: The new mill at this place is in full blast, having 16 stamps crushing about 15 tons of ore in 24 hours. The mill crush 13 tons of the hardest white quartz that comes from the Pine Tree mine so fine that four-fifths of it will pass through a sieve of 2,500 meshes to the equare inch. This fine sand ie carried by conveyers and elevators to the drums. These drums are four in number, and are made of boiler iron, and riveted together in the same manner as eteam boilers. Each drum is five feet in diameter and three feet long, lined inside with cast iron one inch iu thickness, and is charged with 2,000 pounds of cast iron balls, of about one ounce weight each; then 1,000 pounds of sand is thrown in, and the mase set in motion, making 25 revolutions per minute. This revolving, grinding motion is continued from 40 to 60 minutes; the sand is then discharged and conveyed to the amalgamatore, where it is eubjected to a boiling process with superheated steam for about 30 minntes; it is thon let out into a tank below and cold water from a hydraulic hose is let on which washes it down into a shaking table below. When the charge has heen washed through the tahlo tho tahle is cleaned up and the amalgam pauued out, which completes the process. The whole procoss takeu together is called tho Eureka, or Ryersou process. The rock pays to my certain knowledge about double what it will hy the wet process, aud yet there is not a corresponding difference in the cost of reductiou. Another important item of machinery lately put up in eonnection with the new mill is the Thunderbolt Crusher, recently received from New York. It is claimed by the inventors that tho Thunderbolt will reduce a large proportion of the rock to a fine sand; but that is a mistake—only about one tenth is reduced to a eand fine enough for the drums. It is an excellent epaller to prepare rock for the batteries, and iu some respects an improvement on the Blake spaller. The Co. have a large quantity of rock on hand, and the mine is iu a coudition to get from 75 to 100 tons a day. Another new mill of 25 stamps is being commenced, which, when finished, will double the capacity for reduciug quartz.

NEVADA COUNTY.

Transcript, March 9th: Hook, Crawford & Co. have located 600 feet of Green Horn creek, Little York township. The location commences at the first falls and extends down the creek.

March 11th: The West Eureka Mining Co. filed their certificate of incorporatiou in the County Clerk's office yesterday. The Co. is organized for the purpose of mining the Turnpike Milk Ranch Quartz Ledge.

March 12th: The Buckeye Co., owning the North Star ground, have sold their mine to H. Mackie, Henry Philip, Butterworth, Pioche and Robinson. The interests of Stoakes, Watt and McCowen were transferred by this sale. This Co. has heen prospecting for some time for the gravel channel and have recently found excellent pay dirt. The new owners are fully able to prospect the ground thoroughly.

March 13th: M. C. Taylor has located the waters of Wolf Creek for mining and milling purposes, commencing at a point 100 feet above the erossing on Anhuru street, Grass Valley, and conveying the waters to such points as may be desired for mining purposes.

Henry Thomas & Co. have located 1,000 feet on the second extension of the Roanaise mine, Eureka ledge. The location is bounded on the southeast hy Dorsey & Co's claim, and extends thence northwesterly 1,000 feet.

Sinco the last storm ditches which carry water to the Scott's Flat miuers, have been closed by snow, but uow they are running water, and the miners will soou commence washing.

The Eagle claim, at Moore's Flat, is being worked. The Co. have been engaged in raising their shaft to the surface, and will soon be ready to eommeuce washing.

Grass Valley *National*, March 9th: Wo paid a brief visit to the Eureka mine this morning. and fouud them eugaged in melting. The proceeds from a run of two weeks were three bricks, the aggregate value of which was over $23,000.

Grass Valley *Union*, March 10th: The Empire Co., on Ophir Hill, is now taking out very rich rock from the bottom of the shaft. Free gold in abundance can he seen iu the rock, while the eulphurets are unusually heavy aud rich. This morniug they sent of $23,000 worth of gold bars, the proceeds of two weeks run of the mill.

Yesterday the Allison Ranch mine was sold at Referees' sale, and tho property was knocked off to Alfred E. Davis, for the sum of $60,000 in currency.

The West Eureka Mining Co's claims are situated on Worthington's ranch, just about a mile northeast of Grass Valley. Their ledge is supposed to be the same one on which the old Eureka and the Idaho mines are located. The owners are sanguine of having a good thing, as gold in great quantities hae been seen in the ledge.

March 11th: The Harterey mine, on Wolfe creek, not far above the Allison Ranch, is again at work, the Co. reöpening it having obtained a lease ou favorable terms from the owners.

The Wisconsin Co. started up their pumps day before yesterday, and as soon as the water is all out of the mine men will go down into it to take out rock.

The Grass Valley mino did yesterday, or will to-day, start up its pumping apparatus to free the shafts of water.

The Mobile ledge situated just north of the Eureka Co's works is heing opened up in shape by the Eureka Co.

The New York Hill mine must be worked the coming summer, since tho yield of the mine iu times past has been very great; and where tho mines left off in the levels the rock was looking better than any which ever came out of the mine.

On Massachusetts Hill, famous in times past, the mills are idle and the rust is fast eatiug up the machiuery.

Ou Osborne Hill, and on Sebastapol Hill, several companies are working away, and are paying their way as they go. Miuers on both these hills have the true theory and are working up to it.

Altogether the mining prospects of Grass Valley were never better thau they are today. The summer, it is calculated, will be very favorable to miniug, since the winter has been a comparatively dry one.

Transcript, March 16th: The owuers of the San José Gravel claims have found in their prospect tuuuel gravel which yields seven grains of gold to three paue of dirt, and they have now commeuced sinkiug a working shaft, in which they expect to reach the channel 125 feet below the surface.

Thirlwell & Co., adjoining the Young America claims, have for some time past been prospecting the ground with a tunnel, which is in some 700 feet. At the end of the tunnel gravel was struck that paid as high as $1.30 to the pan, but ou account of bad air, and the hed-rock pitching downward, it was found necessary to sink a shaft in order to prospect the ground more thoroughly. The compauy are now sinking a double shaft, which is down ahout 50 feet, and which they intend to sink 80 feet deeper, when it will be 50 feet below the tunnel.

Grass Valley *Union*, March 18th: The pay streak in Underwood & Co's hydraulic diggings has been lately struck in a very rich spot, and as high as $10 a day to the hand has been taken out, since the new cut was run into the hill. The hed-rock pitches into the hill, giving evidence of an extensive and rich gravel deposit. We saw a uumher of heautiful epecimens of washed quartz gravel covered with gold.

PLACER COUNTY.

Truckee *Tribune*, March 12th: From Dutch Flat we learu that the Baker Bros.' mill cleaned up a few days since, after eight days run with eight stamps, $1,350. The ccment averaged about $2.75 per car. The claim is imperfectly opeued and much difficulty is experienced iu getting out gravel. The King Bros. have struck an immensely rich streak of gravol in their claim. As high as $300 having been obtained from a single pan of dirt. Very rich specimens of cement are ou exhihitiou iu town. A great excitement prevails amoug the people and activity once again seems to pervade the town.

PLUMAS COUNTY.

Quincy *National*, March 6th: A correspondent writing from Crescent Mills says: The Enterprise Mill, in Light's Cañon, Indian Valley, is in operation and is running on good paying silver rock. Mr. Wilmot, the Superintendent, has made two "clean-ups," and says the rock will pay well. The quartz mills in the Cherokee district are running regularly and paying finely. Chapman & Bros., of Coppertown, havo made a short but paying run with their smelter.

SHASTA COUNTY.

Courier, March 13th: Mr. Freeman, a member of the Shasta Hydraulio Co., at Piety Hill, has selected specimens of ore from several of the South Fork ledges, with a view of thoroughly testing their worth by means of careful assays. About half a ton of these specimens have been shipped to San Francisco, whero Mr. Freeman has made arrangements to have them worked and assayed by the best experts in the city.

SIERRA COUNTY.

Downieville *Messenger*, March, 13th: J. Alexander took from his diggings, behind Armory Hall Livery Stable, on Saturday last, a piece of gold weighing five and one-half ounces, besides two ounces in fiue dust.

SISKIYOU COUNTY.

Yreka *Union*, March 6th: Owing to the scarcity of water, but few Chinamen are now at work in this county.

Lash & Co. have just cleaned up a small crushing—about 30 tons—from the Accidental. The yield was $19 to the ton.

But little is being done in mining on Scott River at the present time, on account of the scarcity of water.

We understand a Portuguese compauy ou the Lower Flats have struck it very rich in their claim and are takiug out the ore by the pailfull.

A friend writes from Cottonwood that times are very dull there at present, and miniug almost suspended. The Blue Lead Co. struck gravel on Wednesday and the prospects look favorable.

TRINITY COUNTY.

Weaverville *Journal*, March 13th; Phillips & Daniell have recently made a discovery of very rich quartz on Deadwood, a small creek emptyiug into Trinity river, about ono mile above Lewiston. They are said to have found rock ahounding in free gold, visible to the naked eye. Deadwood is noted for quartz gold, and it has long been the current opiniou of residents in that vicinity that valuable gold-bearing quartz existed in the adjacent hills. We are satisfied, from our own observations, that there are good paying ledges on the head of the creek.

H. A. Jones is opening a claim iu the banks of Trinity river, a short distance below McGillivray's. Mr. Jones has already found gravel that prospects 50 cents to the pan. His claim is in a locality that has always been reputed to contain rich deposits of gold, but could not he tested for want of water. McGillivray's ditch has supplied this doficiency, and the diggiugs at Park's Bar and the claim first mentioned have already been discovered, promising to pay well.

YUBA COUNTY.

Marysville *Appeal*, March 13th: We hear that 150 shares in the Pennsylvania, owued by Hannsman, were sold at San Francisco, a day or two ago. The price was not ascertained, though $16 has been asked for the same.

ARIZONA.

Prescott *Miner*, Feb. 27th: Seven or eight miners have arrived here from Black Cañon diggings, Bradshaw mining district, and all expressed themselves well pleased with the diggings. There are about forty men on the creek. Poland, Marsh, and others, have a hench claim, in which the dirt prospects well. As high as $1.50 to the pan has been got by them. We eaw a lot of the gold brought up by the minere and it looked as though it were worth $17 the ounce. We predict that the Bradshaw miuing district will never again be abandoued. There are plenty of claims there that will pay from $4 to $10 a day to tho hand. Indeed, Poland & Co., expect to make $20 a day to the hand, as soon as their ditch is completed.

Dr. Alsap gave us a small piece of quartz, found by one of the party, near Big Bug, which contains a great deal of gold. Mr. Williamson found a pieco of quartz from which he took one piece of gold weighing twenty-fivo cents.

Owing to the cold weather, Jackson, Lovejoy & Co., on Lower Lynx Creek, have been unable to work their hydraulic claims to advantage. We learn that the last run made yielded $9.33 to the hand. Now that the weather has moderated, they expect to make as high as $12 and $15 per day. They have sent to California for another hydraulic apparatus, and, as soon as it arrives, will start work on another claim, above that in which they are now working.

Young, Scott & Sloue are working a bar on the Hassayampa, below the mouth of big Copper Creek, and are making fair wages. Other parties are working above them on the creek.

Reports to the effect that rich placer diggings have beeu found near Camp McDowell, 100 miles east from Prescott, have reached this place, but wo know nothiug definite in rogard to the diggings. It would not surprise us, however, if rich diggings had heen found iu that vicinity.

Outside of Wickenburg, little is being done in the way of quartz mining. At that place, at last accounts, both mills were running with good euccese, and the mine was as good as ever.

At Walnut Grove, some men have built an arastra and will commence working ore from the Mammoth lode as soon as it can be hauled.

The ledge in the Stirling mine is noarly twelve feet thick, and the quartz is as good as ever.

Some of the ore from the Chase mino taken to San Francisco, and worked there, paid as high as $600 per ton.

Nothing can be done at Walker's Creek until the snow—which is four or five feet in depth—melts.

With the opening of Spring, we have reason for believing that our miners will have new life and energy instilled into them, and that several companies now idle will go to work in earnest.

COLORADO.

Georgetown *Miner*, Feh. 17th: The editor says that many persons suppose that the ores of White Pine, by assay, overshadows all other ores in the world, and goes on to name a numher of mines about Georgetown that have yielded as rich assays in silver as any yet discovered in White Pine, amongst which are the Bethany, $22,000 per ton, and the Amador mine $19,000 per ton. He says: Besides those two veins we have seen recent assays from the Anglo Saxon, situated on Saxou mountain, of over $8,000 in silver to the ton. If we had the time aud epace necessary we could give huudreds of assays over $1,000 in silver to the ton.

The Terrihle still continues to increase its production as the workings are extended to greater depths. The main shaft is now 170 feet in depth, carrying five inches of solid mineral. From the main shaft, 50 ft. from the surface, two levels have been run, the east oue 140 feet in length. A winze ie being sunk from the floor of this level, 160 feet from the main shaft, to connect with the 125-foot level. There is eight iuches of solid mineral in this winze. The east 125-foot level is now in 40 feet, and is being driven as rapidly as possible. The west 50-foot level is now 150 feet in length. The stope in this level, 50 feet from the main shaft, is carrying five inches of mineral. The ore from thie mine is galena and zinc-blendo, the former predomiuating, carrying

brittle and ruby silver, argentiferous gray copper and native silver, and yields in bulk, $500 to the ton. Nine and a half tons, shipped to Balbach's works, Newark, New Jersey, some three or four months since, gave a gross return of $5,772.12 in currency. Twenty tons are now on the route to the same works, and ten more will be shipped as soon as the sacks can be obtained. Lying on their dumps there is some 200 tons of second class ore, which they intend to crush and dress.

The Felton mill in Granite district is running regularly on ore from the Magenta mine with very good results. Harrison's mill is running on custom rock from various lodes. Their last clean up from Hattie Jane ore indicated a yield of nearly $1,000 per cord. The veins, which are nearly all quite narrow at the surface, have generally increased in width as they have been sunk on, without any perceptible diminution in the richness of the ore. The ore has thus far been almost exclusively decomposed quartz rock, with no sulphurets, but of late some of them are yielding coesiderable iron.

Denver *News*, Feb. 10th: There has been some talk recently of an attempt to start works in Denver for working gold, silver, copper and lead ores by smelting.

IDAHO.

Owyhee *Avalanche*, March 6th: The south extension of the Silver Cord, lately incorperated in San Francisco, is going to be worked soon.

The shipments of bullion from Wells, Fargo & Co's office in this place, during the month of February, amount to $91,-645.76, coin rates.

The Ida Elmore mill will steam up again about the 20th of the present month. The mine has been put in excellent condition for working, and the yield for several months to come will be enormous. Teams are now engaged in hauling ore from the mine to the mill.

Boise *Statesman*, March 6th: William Nevill, returned from a trip to Centerville, says the town is extremely dull, but if the pleasant weather continues, the water will begin to run in a week or two longer. A few miners are already making preparations for work.

W. A. Goulder writes from Shoshone County, to a friend in this city, dated Pierce City, February 15th, 1869. He says: Snow is about two feet deep here now. The weather is very fine. A party came in from Mooso Creek the other day on snow shoes, having been seven days on the road. They report all well, and prospecting. Many good claims have been found during the winter, and considerable money has been taken out with rockers and pans. There is no longer any doubt that they are good mines, both rich and extensive.

The recent news from the Alturas mines is of the most encouraging nature. The great Atlanta ledge, if located in White Pine, would have thousands of men rummaging every cranny in it before a week, but as it lies in quiet Alturas, and has been a common-place topic so long, people now are loth to believe that it assays from $500 to $20,000 to the ton. M. O. Moody called in yesterday and gave us some information from there, at the same time exhibiting some specimens of ore from the Atlanta, one of which assays $26,540 per ton. That class of ore lies in a body or streak about six inches in thickness on the west side of the mine and next to the easing. About one-half of the body of that vein is composed of the same grade of ore, nearly solid silver. Next to the east easing is another vein about two feet in width, a trial of which yielded one-half its weight in metal. No assay of it had been made when Mr. Moody left. These are struck in the tunnel, which is now 150 feet long, and reaches a point 105 feet perpendicular from the surface. The mine is over 20 feet wide, and the rock lying between the two veins described above, yields over $400 per ton. Mr. Armstrong, foreman in the mine, says there is three years work in sight. The Monarch Co. have now on hand some 1,500 to 2,000 pounds of bullion awaiting passable roads to get out.

Walla Walla *Statesman*, Feb. 19th: A gentleman just down from Kootenai reports the new mines on Perry Creek as prospecting finely. Large numbers of miners who had wintered in the Hell Gate Valley, were coming in and taking up claims. They report very little snow on the mountains and the traveling excellent. The new mines will furnish employment for several thousand men, and now is the time to secure claims..... From a private letter dated Humboldt Basin, Feb. 9th, we glean the following information in relation to their spring prospects for mining: "We are having a far better prospect for a mining season than the last two years, the snow being about 30 inches deep on a level. Altogether, the boys are in better spirits than usual. If any of your friends think of coming up this way in the spring, I would recommend them to the following camps, where there is good diggings, and where they employ a large number of hands during the mining season and pay good wages: Humboldt Basin, Rye Valley, and Amelia, or New Diggings, all of which are good camps. Considerable prospecting has been done within a circuit of from 20 to 30 miles, and in several districts good prospects have been found. I have no doubt but that several new camps will be worked the coming season with good success."

MONTANA.

Helena *Post*, Feb. 27th: The Lindsley Mining Co. have struck pay dirt in their shaft, and are actually taking the gold out.

The Diamond City mill of Hervey & Addis, which has been for the last 10 days pounding away upon rock from the Whitlach & Parkinson lode, cleaned up on last Sunday night. The result was a bar of gold weighing 293 ozs., and valued at $7,000. This is the product of 200 tons of unselected rock, crushed in 10 days by 10 stamps.

Affairs in McClellan Gulch are in a prosperous condition. A drain ditch is being run from McClellan to Poor Man's Gulch, the entorprise being undertaken and conducted by the owners of the claims in Poor Man's. By means of this ditch the entire length of the gulch will be worked the coming summer. In McClellan a great number of the mines have been worked all winter. The water that supplies that gulch in a great measure flows from springs and bears a temperature of such a degree of warmth that it flows in the sluice boxes even in the coldest weather. On the coldest days of this winter earth was being sluiced. Price & Co. are busily engaged in drifting, in the lower part of the gulch. In the upper part, where the pay dirt is not deep, ground-sluicing is resorted to. It is anticipated that the coming summer will see a large amount of gold taken out in the gulch. The ground which is now being worked has all been worked before, and in this re-working, from good wages to $9 a day per hand, is realized.

We were shown recently a lump of beautiful retort, which was the result of a four days' run in the mill being operated by the Plymouth Mining Co. In this mine four shafts are in process of sinking, the most extensive one having reached a depth of over 50 ft. From the rock taken from this shaft a run has been made which resulted in the aforesaid lump of retort valued at $400. This run was simply an experimental one, more for the purpose of regulating and coating the plates.

NEVADA.

ESMERALDA.

The Aurora correspondence of the Sacramento *Union*, dated March 8th, writes: A friend who came in from the Pine Grove mining district to-day, informs me that the mines there are looking very favorable. The mills are running successfully and the mines are improving in richness. The people are much pleased, and their prospects of success are very promising. Two or three new ledges have recently been located; in one of them about five and a half tons of rock have been worked, from which six and three-quarter pounds of retorted amalgam was obtained, and estimated at about $150 per ton of rock. The rock in the district is generally gold-bearing, but a recent location is of silver. The croppings are said to be over 50 feet wide, and the rock shows rich in wire silver. Crocker, the locator, was offered $1,000 for 200 feet of the ledge.

Parties came in to-day from Palmetto and Silver Peak, and report that there is much work being done in the mines, and that the prospects in both districts are very favorable.

REESE RIVER.

Austin *Reveille*, March 8th: Mr. Clark, of the Fisherman Co., in the district of Reveille, recently showed us a lot of samples of ore, weighing about 40 pounds, which were to be forwarded to San Francisco. The ore was obtained from three claims, belonging to the company, known as the Victorine, Santa Fe, and Fisherman, and much of it, especially the larger pieces of horn silver, is identical with that produced by the richest deposits of White Pine.

March 9th: We were informed by a person who returned from Belmont last evening, that it was becoming harder every day to keep men at work in the mines and mill in that neighborhood, even under the prospect of steady employment and liberal wages. The workmen are bursting their shirts in their haste to go to White Pine.

March 10th: To-day the First National Bank of this city shipped the last of nine bars of bullion, weighing 675 pounds, produced by Col. Buell's mill at Belmont from Highbridge and Transylvania ores. The destination of the bullion is San Francisco.

Belmont *Champion*, March 6th: As rich ore as was ever found in any country, has been taken from Reveille district, and reduced at Austin and this place. The principal portion of the veins or deposits of the district are, as in White Pine, surrounded by a limestone formation, and the general opinion that mines of this character were not permanent, has seriously retarded the development of Reveille district. A new discovery has recently been made here which bids fair to have the effect of bringing the district into favorable notice. During the present week Captain Baker brought into Belmont a ton and a half of ore, from this recent discovery, for reduction, which yielded $247 to the ton, and Captain Baker has every confidence that the ledge will yield many thousands of tons of the same kind of ore. This lot of ore was taken from the ledge indiscriminately, and was not assorted at all.

John M. Reed on Wednesday last, favored us with an examination of a sack of specimens of ore, weighing 30 or 40 pounds, from the Seneca Co's location on the U. S. lodge, in what is known in this section of country as the Stone Cabin range of mountains. Mr. Reed has had some eight or ten assays made of the ore, the lowest of which gave a result of $161 per ton, and the highest showed a value of $1,367 per ton. One pound of ore from different portions of the ledge, pulverized and thoroughly mixed, gave an assay of $987 per ton.

In both the north and south shafts of the El Dorado South mine, work is being prosecuted vigorously, and daily large quantities of high grade ore are being raised to the surface. These portions of the mine never looked better than at the present time.

The Belmont Co's mill is running steadily day and night upon ore from their Transylvania mine, and is doing good work, as the number of bricks shipped fully attest.

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

Virginia *Enterprise*, March 9th: The Belcher Co. now have some 400 tons of good milling ore on their dump. They have good bodies of ore both at the 200 and 335-foot levels.

March 10th: The Julia Co. are vigorously engaged in prospecting their mine, situated to the eastward of the Cornish.

A very large body of fine sulphuret ore has lately been found in the 900-foot level of the Yellow Jacket mine. The mine is at present looking well in every part.

Operations will shortly be resumed in the Sacramento mine, situated on Cedar Hill. The ores extracted will be crushed at the Summit mill, as formerly.

March 11th: The Sierra Nevada Co. yesterday found a deposit of quartz much richer than anything they have yet found. From some of the specimens taken out, wires of gold half an inch in length projected.

The Ophir drift west is now in about 70 feet. They expect to strike their front ledge in going 130 feet farther. The rock through which they are drifting is very hard.

March 13th: The Imperial is now yielding about 120 tons of ore daily from the upper portions of the mine, sufficient to keep both of the mills of the company running.

The Savage mine yields between 1,000 and 1,400 tons of ore per week, averaging about $35 per ton, and employing about 170 men daily.

WHITE PINE.

Treasure City *News*, March 6th: An illustration of the great richness of this district was given during the past week. Masten & Arrington, at Menken, engaged two men to sink a well in Mazeppa Cañon. After sinking to the depth of about 15 feet, a ledge bearing a rich body of ore was encountered and located as a mine by the well-diggers. Of course no more progress for the purpose proposed could be made, and a new locality was sought. Here again, after sinking a few feet, another rich vein was struck, claim made and well abandoned. This was too rich a place to devote to furnishing water only, and in a more distant locality it was concluded to dig the well. Sinking has been resumed, but with what result we are not advised.

A prospecting party under the leadership of James Basey, left this city a few days since on an extended tour of exploration in the direction of the Steptoe Mountains, and possibly to extend into the Wasatch range, south of Salt Lake.

Quite a stir was created in the neighborhood of the Eberhardt mine, a few days since, by the discovery of native gold and silver in the La Monte mine, which is located about 250 feet north of the Eberhardt, and runs parallel with that great vein. The ore extracted contained beautiful specimens, showing both gold and silver in considerable quantities, besides the usual ores of the latter metal.

The developments on the Willimantic, situated at the foot of Chloride Flat, have been very favorable during the past week, and some of the best ore of the district obtained. Assays of ordinary ore show a value of $461.93 per ton, and some of the choicest specimens reach $2,500 per ton. The ledge is now showing a width of four and a half feet, and all appears to be mineral of a good quality.

On Tuesday last, some miners working in one of the old locations on the Base Metal range, came upon a mass of ore rivaling in purity and value the best of Treasure Hill. The ore found was brought to town, and upon assay proved to be worth from $2,000 to $3,000 per ton. The story of its discovery soon became noised abroad, creating a great excitement, and on Wednesday a rush of prospectors, speculators, surveyors and town locators commenced for that locality. The point is about one and a half miles northwest of Treasure City, although by the road leading there it is about three miles. The locality is known under the various names of Northern Light Mill, Chlorido Flat No. 3, and Base Range; but a town has been laid out and named Babylon.

The bullion receipts of the assay office of T. M. Luther, Silver Springs, from Feb. 7th to the 28th, amounted to $105,857.33; and for the week ending March 2d, 37,731 ounces of crude bullion.

Several new and rich claims have been located in the immediate vicinity of Hamilton. The ore is said to assay rich.

Austin *Reveille*, March 9th: The Silver Springs correspondent writes: Great excitement prevails in prospecting circles, most particularly on the west side of the road leading from this place to Hamilton, where some very rich strikes have been made, some two or three days ago. This new discovery is in the Base Metal Range.

Luther & Huey are still pushing the work on their tunnel. They are now working four sets of hands, and the tunnel is over 300 feet in length.

The Moore & Barker mill has started, and is running with good success. The Oasis mill was shut down a few days for repairs, but started up day before yesterday.

March 10th: Eight bars of bullion, weighing 815 pounds, and valued at $14,-839.29, were shipped by the agency of the Nevada Bank at Treasure City, White Pine, overland to New York city, on Thursday, the 4th inst.

OREGON.

The Jacksonville *Sentinel* of March 6th says that mining in that section during the past winter has been a complete failure on account of the scarcity of water, and urges, not only the miners, but the farmers, to unite and contribute a small sum each to be expended in bringing the waters of Applegato Creek to the Sterling mines. The editor says that the enterprise can be completed at a cost of less than $60,000, and that the ground thus provided with a sufficiency of water cannot be worked out in the next 40 years.

SOUTH AMERICA.

A company has been formed with a capital of half a million of dollars, to work the mines of Oreamuno and their continuations, called the San Rafael and La Minta, in Chili. Those mines were discovered and worked in 1825, yielding, it is said, large profits, but unfortunately were flooded with water. The Directors assert that during the short time they were in operation they yielded one million and a half of dollars, which forms the foundation of the capital of the Republic. The corporation is called "Compañia del Monte del Aguaeato," and located in San José.

WASHINGTON.

Olympia *Transcript*, Feb. 20th: For some time past, a number of men have been prospecting in the region of the Black Hills for gold. We have heard rumors of their finding the "color," which could hardly be otherwise, considering that it can be found in small particles in almost every ravine in the county. We learn, however, that some of the citizens of Miami Prairie and that vicinity have opened a road to Waddle's creek, and would take a wagon load of sluice boxes in on Wednesday last, to test some ground on the creek.

We need scarcely tell our readers that it is the best mining and scientific paper published on the continent. *Ed Mercury.*

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

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CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.
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Mr. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, March 20, 1869.

Notices to Correspondents.

ALKALI, Sacramento.—The mode of obtaining soda, which has been employed so successfully from the date of its invention, by decomposing in the first instance common salt by means of mundic acid, was invented by LeBlanc, in reponse to the offer of the First Napoleon of a reward of 1,000,000 francs for a more cheap and extensive method of obtaining soda—a promise, however, which Napoleon never fulfilled. There are few instances of an industrial improvement holding its own for half a century against so many competitive efforts to outvie it. The patented inventions in England on this subject since 1830, amount to more than 300, and "the cry is still they come."

A LOVER OF ORNAMENT.—The flexible cups you are inquiring about have no doubt reference to some specimens of Burmese varnished ware—a variety of art in which that nation excels beyond all others. This ware, in its hot state, is like very fine papier mache; it is thin and light, and so flexible that the two sides of a cup may be preseed together so as to touch each other, without cracking the coloring or at all injuring the article, which returns to its former shape as soon as the pressure ie removed. The colors usually employed are black and vermillion, hut more commonly yellow or green, upon a red ground, or red upon a black ground; and very superior articles are decorated with raised figures of gold.

SAUCE, San Diego.—Of the olive tree, Mr. Lang (a Scotchman) observes in his travels through Italy: "Truly, their (the Italians) plenty is their curse. Suppose every kail-yard in Scotland had a tree growing at the dyke-side, like the old pollard saughs we usually see there, and requiring as little care, or cultivation, and from this tree the family gathered its butter, suet, tallow, or an oil that answered all the household uses of these substances, whether as a nutritious adjunct to the cooking of the daily meals, or for soap, or for affording light,—all, in short, that our grass-lands and dairies, our Russian trade, our Greenland fisheries, produce to us for household uses. Would it be no blessing to have such trees?" We do not think we could better advocate the cultivation of this valuable tree and emblem of peace, as desired by our correspondent, than hy inserting the above quotation.

H. C. K., Dutch Flat.—We will endeavor to throw some light on the subject of your inquiry next week.

SLATE QUARRIES.—We are informed by Mr. M. Honigsberger that a first-class article of slate can be quarried in the vicinity of Copperopolis, to which point the Stockton and Copperopolis Railroad will be extended in the course of the summer, unless the railroad company should choose to forfeit their charter.

"Going to White Pine."

It is a common expression,—for White Pine is El Dorado now. Everybody is going to El Dorado; hut people take very different roads to the same, and the soher country finally attained is never exactly the same as the country sought for, aud pictured hy the imagination.

The road to White Piue, as described by correspondents, must be indeed an instructive sight—a comment upou poor humanity and the laws governing wealth and society. Mankind are slaves, willingly and enthusiastically so, to an arbitrary conventionality or law, the Rule of Coin, which is more inexorable aud more tyrannical than monarch ever dreamed of beiug; exalting the rich and relentlessly crushing the poor or unfortunate into the most helpless degradation and even suffering. White Pine is a Mecca, at this moment, hecause nature, in her odd, apparently freakish way to our present scientific discernment, has concentrated tens and hundreds of millions of dollars' worth of silver there. We would like to photograph this stream of travelers to White Pine—from Salt Lake, from Chicago, from Idaho, and from Oregon, aud the great main artery from California, as briefly noted in their proper department in this number of the PRESS. The stream has been flowing for weeks and months, and neither frost, nor bitter winds, nor want of covering at night, nor dilapidatiou and scarcity of shoe-leather, nor hunger and want of the means of providing against the same, have been ablo to congeal it into rigidity for a single moment. It is a pitiable, and yet a merry pilgrimage,—at the risk of life, conscieuce and soul with not a few. Mankind are reduced in it to naked first principles; and how wonderful are the resources of energy developed in such an aggregated mass! It is sublimo to think of the unlimited possibilities of combined human energies, excited by an adequate cause.

And worthy indeed, should be the cause, or motive, that has set all this in motion. The rude shuffling race for wealth has been decried, and the abandoned devotees of unscrupulous money-power have called forth nothing but contempt from all the uobler minds of the world; yet power the rich undoubtedly possess, no matter how they may have attained it; the truth heing that we are all subjects to the same Law, aud we must either suhmit to and adapt ourselves to its conditions, or be abject slaves, not even feeling that we are men.

But the rush to White Pine as we see it is really not created in any sense by unworthy motives, but, on the contrary, in nearly every case there are individual reasons the most meritorious in the world, could we but read the hearts and the history of those who are passing. Accidentally we may know the secret springs of actiou—not in the "dead broke" cases alone, of chronic or temporary affliction. We can distinguish, perhaps, amongst the rude and roughly-accoutered crowd, a fair and emooth-faced young man of intelligent appearance who showa a genial and hopeful eye, but deeper in his heart, if you should learn to know him, would evidence a resolute and profound purpose as nnquenchahle as the force of life itself, for he has left a worthy mother who not only hopes for, hut is dependent upon him, and whose anguish of solicitude the world probahly never even suspects. We see another, a sturdy honest fellow who can drivo oxen, getting along in the strife as best *he* can; we saw his sister—unfortunate slave, too!—in the company of some fancy men and women at Elko the other day (vide telegraphic dispatch.) We take our bearings of these disgusting but exquisitely booted and jeweled and ringed "gentlemen," who carry navy six-shooters, and a little derringer beeides, and who use both unhesitatingly, but are arrant cowards nevertheless. The "capitalist" passes us, in the most extensive of overcoats—but he is, more probably than not, only an agent of capitalists, and he may he on the scout, with possible victims in his mind's eye. A served-out convict who comes along, enters into the front of the excitement, and feels that life here places him on a tolerable equality, and gives him a "fair show" again. A scientific man plods aloug, who unassumingly interests himself in the geology of the famous mountain, and its chlorides; but no comparisons, or generalizations of his, from the closest observation and study of the ground, can place his opiniou on an equality, at White Pine, with the man who has "struck it," especially if the latter has an indefinite way of using a few technical terms. But undeniably the general tone of those we meet on the road or at the mines is generous and manly; public sentiment, wherever it mauifests itself, is rough and aboriginal, but it is sound; aud the sympathies that rule stand out uobly in contrast with the extremest acts of selfishness of which men are capable—as if the observers felt apologetic for such human weakuess, and meant to counterbalance matters for their own satisfaction.

It is well that men have motives for exertion. White Pine will not be a failure—for the country will at least he developed. It is woll indeed that the nine-tenths who fail in their hopes may yet be all successful; while the few who get tons of silver may prove tho greatest failnres of all, for we know that silver is only a conventional measure of things held valuable in the world for the happiness they may confer, which result depends upon the use made of it, but not more than upon that made of our daily surroundings without it, the basis being in the individual's character and absolutely independent of wealth.

Let every man, theu, travel to his *own* White Pine; and let him press forward resolutely, laboriously, perseveringly, and with manly epirit; for our wealth, silver or no silver, is in the telling deeds we can accomplish, our share of happiness in the use we make of the beautiful and the good things that creation offers to us out-doors and in, at every turn, and from which we have only to select. The incentives that move us through life shall thus carry us to a worthy goal; the successful being those who, having worthy motives, accomplish the same—the more worthy the greater the success.

We would not hinder the rush to White Pine. Let every body go that feels impelled, or justified hy the promise. There is something captivating to the imagination in going to a Potosi for wealth. No harm can come of it, for the railroad is open, and it will be easy to rush back again, and be the more content in developing positive and certain resources. As a matter of course White Pine will have to he overdone, and "when the smoke clears off" there will he many a flat, and many a ledge like the late new discoveries in the Base Metal Range, deserted to the few who intend to deal hard knocks in miuing; the dupes, with the dupers in the crowd, and the "leading capitalists" who lend their names to a good thing or a swindle for a three-fourths interest, having all gone farther on, but still pressing forward frantically on the straight road to El Dorado; whether it bo called White Pine, or any other name that sounds as well.

TESTING AND ASSAYING OF ORES.—Mr. J. S. Phillips has fitted up a room at No. 423 Washington street, near the Postoffice, for the purpose of giving instruction in the testing and assaying of minerals, with the blowpipe and also in the wet way. He has every facility, and is a competent instructor; heing the best blowpipist that we know of in this city. A few hours of instruction might be made of great value to silver pilgrims. His advertisement will be fonnd in another column.

Electricity and Amalgamation.

There are now two processes of amalgamating with the aid of electricity before the public, both of which are put forward with very fair pretensions to economy; and we are rather pleased to note that the proprietors, or inventors, have fallen into a contest with each other as to their respective merit and originality. The hattle is very mild, it is true, aud not much to the issue. But it will do more good than harm to all concerned; for these new processes should rather be torn to pieces than to be allowed to die of inattention and neglect. The Nolf and the Paul process appear to be entirely different in every respect. It does not seem to us to be proven that electricity has much to do with the success of either of them; as in the Nolf process no comparative working test has been made on the same ore and chemicals *with* electricity, and *without*,—that we have heard of,—to show how much is due to the electricity and how much to the sulphate of copper and salt; though it is evident that electricity has a tendency to prevent the latter from cutting up the quicksilver, which is a matter of great importance; while in the Paul process no current of galvanic electricity is applied at all, and no test has been made, so far as we are aware, to show that friction electricity has anything more to do with it than in ordinary barrel amalgamation. The Paul process is yet in the dark, as no one knows what chemicals Mr. Paul uses. Concerning the originality of the Nolf process, we understand that a caveat was filed for a patent about a year ago, but that no patent has yet been obtained, owing probably to the continuance in making improvements. Both Nolf and Paul deserve every encouragement in their efforts. We must state that we deem it both wise and commendable in Paul to have given at once his results on particular ores, for in that manner the public will be enahled to form some judgment as to the merits of his invention. In the working of the Nolf process we understand that the difficulty of separating the mercury and amalagam satisfactorily from the ore treated, has prevented them from giving any fair statement of the results of their process,—a difficulty which they hope soon to overcome.

Mention has been made to us of the reduction of rebellious ores lately, at Pioche's works, in three hours, at a cost of $5 per ton; and Mr. Paul thinks he can do the same by his process at $3 per ton. If there is sufficient truth in these assertions to make them *stay* true—new processes being notoriously liable to give us the slip on such questions after a little while—we can assure our readers that the additional evidences from working tests to convince everybody, will not be long withheld.

A NEW MANUFACTURING ENTERPRISE.—The prosperity of a country depends less on the abundance of its raw material, than npou the amount of its manufactured products. The prospectus of the California Tar and Turpentine Manufacturing Company, has been placed in our hands hy Mr. Alex. C. McKean, of 424 Montgomery street. The principal object of this company is the manufacture, under a new and improved method of tar, turpentine and resin, together with their concomitant eubstauces, pitch, charcoal, potash and wood acids, etc. for which the dense pine forests of our northern coasts are so well adapted. All needed information in regard to the operations of the compauy can be obtained from the above named gentleman.

VIEW OF TREASURE HILL.—H. H. Bancroft & Co. have published a fine lithographic view of Treasnre Hill, inclnding Hamilton and Treasnre City, from a sketch taken by E. W. Peet, which gives a better idea of White Pine as one would find it on going there, than would be obtained in any other manner, short of the journey.

Simonin's "Underground Life."

We have mentioned the receipt, from H. H. Bancroft & Co., of a copy of this splendid production, the largest and most superbly gotten-up work on mining in the English language. It is translated from the French, and added to by H. W. Bristow, F. R. S., of the British Geological Survey; the French work, "*La Vie Souterraine*," having been before the public for some little time.

"Victor Hugo," says the author in his preface, "has recently described the struggles of the sailor in "The Toilers of the Sea." What he so happily calls the irrepressible power of the Elements, addresses itself alike to the Mariner and the Miner, for each is the soldier of the deep, against whom the powers of nature wages at times their utmost fury."

"The first part of the present work is devoted to Coal, a substance indispensable to all civilized nations; the second to Metals, the origin of all progress; the last to the Precious Stones, which play so important a part in the decorative arts. The intrepid coal-miner, whose advent is but of recent date; the veteran of the mineral world, whose origin dates from the dawn of history; and the patient seeker after gems—are the types of industry we have to consider."

"Underground Life" is large octavo in form, pp. 516, printed on the best quality of paper, and is illustrated by real artists, in the designing as well as in the work of the wood engraver. There are 160 engravings, many occupying nearly a whole page, illustrating interesting underground scenes, and all the tools and machinery that the miner has to do with; twenty maps geologically colored, representing the great coal fields of the world, and the metalliferous regions of Chili, California and Novada, Lake Superior and Australia; besides ten chromo-lithographic plates representing all the minerals commonly met with as ores, with their crystallized forms. The first half of the hook is devoted to coal. In the latter half, devoted to metallic mines and gems, are, amongst the valuable matter, quite a number of vein sections showing the different character of some of the noted ore deposits of the world.

The social and ideal features of underground life seem to have been kept in view by the author throughout the entire work; making it entertaining as well as instructive, an agency calculated to inspire at once an interest in mining on the part of those unacquainted with its realities, and pride in those who are carrying on or aiding in its engineering operations. It is such a work as one would make a present of to an ambitious youth whom we would make sure of intoresting in matters worthy and substantial. To Californians, Simonin's book is valuable, because it contains excellont descriptions, not only of our own North American mining fields, but of Mexico, South America, Australin, Russia, etc. Though covering in general the same ground as J. Arthur Phillips' new hook, "Mining and Metallurgy of Gold' and Silver," the treatment is so different, that the same ground is apparently never covered, and tho sources of information and observation drawn from appear to he so independent as to render both hooks a desideratum to the intelligent mining engineer of this coast, too valuable to he dispensed with.

In regard to the function of the precious metals, Simonin says :

"But if the common motals, especially iron, are so intimately hound up with the progress of civilization that the existence of a refincd state of society cannot henceforth be imagined without their aid, the precious metals, on the other hand, play a part in this world which cannot escape us. In consequence of their exceptional qualities, their rarity, inalterability, and weight, they have not only become the sole representatives of value; but they are also those which, at all times, have helped in the colonization of different countries, by the fascination which they exercise on the minds of the multitude.

The important part which they play in the life of the peoples is known: it remains to be seen how their history composes, to some extent, the very history of civilization."

The price of "Undergronnd Life" is $18.

Irrigation.

Immeuse expenditures are being made in India to secure tho benefits of a general system of irrigation. The land in Central India, snsceptible of such improvement, exceeds, by fully ono-quarter, tho entire area of the State of California. Thero are quite a number of ancient canals, formerly used there for irrigntion, hut now filled up with rubbish from disuse, which aro to he restorod, and great numbers of new ones are to bo constructed. At one locality, in Central Hindostan, an immense reservoir is being huilt, at a cost of not less than $450,000; while soveral important canals aro to he made to answer the douhle purposo of irrigation and navigation. Extensive embankments are also to he thrown up along the hanks of tho Ganges, the Irriwadi, and other principal rivers, to reclaim waste territories of overflowed land. Everywhere, indeed, throughout that magnificent country, where the hand of modern civilization has secured the occupancy and control, the refreshing and fertilizing element is to be compelled to flow over desert places, or restrained from its wnstofulness in regions where hitherto native skill has been insufficient to control the overflowing waters.

So large and urgent is the work to be accomplished that there is said to be a great demand throughout India for competent civil engineers; while there is work enough, in carrying out the contemplated improvements, to give employment to many thousands of men for a lifetime.

Should not we, as Californians, in considering these facts, hear in mind that we, too, have immense tracts of unreclaimed land, equally as fertile as the best in India, and equally as susceptible of improvement under the hands of the skillful engineer? Our position with reference to the corn markets of the world is much more favorable than that of our antipodes, and it should never ho said of such a people as are building up this great empire of the Pacific, that we have allowed the half-civilized, enervated races of the East to out-do or out-rival us in such important engineering improvements as those to which we are alluding. The Darien Canal project seems now to he in a fair way of realization. When that is completed, freight to New York and Liverpool will be materially decreased, and grain can be shipped in bulk and laid down in either city cheaper than it can ho produced and transported from any of the Mississippi States. With such advantages, California might and ought to send two hundred grain-loaded ships through the Golden Gate every month in the year, the aggregate returns from which would be more than four times our present annual yield of gold! Such is the harvest in store for California, within twelve or fifteen years, if her pooplo will only put themselves in readiness to take advantage of the means which nature has placed withiu their easy reach.

MINING IN MONTANA.—Accordiug to the "Montana Statistical Almanac for 1869," there are thirty-four quartz mills in that Territory, with an aggregate of 476 stamps. Only eighteen of these mills are now running. The total gold yield up to July, 1869, is set down by the same authority at $92,000. Prof. Blake, in his Paris Exposition report, sets down the total yield to January 1st, 1868, at $71,500,000, and adds an estimate of $12,000,000 for 1868, which would make a total of $83,500,000 up to the present year. Mr. Taylor, U. S. Commissioner, sets down the total yield to 1868 at only $37,000,000. Coal is said to exist in numerous localities throughout the Territory, several veins of which have been partially developed.

AIR BUBBLES IN OPAL.—Mr. Winant, late of Yaquina Bay, Oregon, has shown us a number of quartz specimens of a milky opalline variety, which contain air bubbles, or a gas which rises always to the top of the little translucent cavern that contains it. Quartz crystals not unfrequently contain water bubbles; showing that during the formation of the crystal from watery solution, both water and air may he inclosed. The peculiarity of the present specimens consists in the quartz being amorphous, and in their having outwardly a common resemblance to the shape of a small mussel shell. They appear to be silicious concretions formed around gaseous bubbles which were arrested under water, from some cause, long enough to enable a skin to he formed.

New Job Printing Firm.

In order to devote our attention more exclusively to the publication of our paper, and the business of our American and Foreign Patent Agency, we have disposed of the presses and job printing material, and fixtures, in our office—with the entire future good will and patronage of our JOB PRINTING OFFICE,—to George Spaulding and Harrison Barto. Messrs. Spaulding & Barto will continue the operation of the same, in our office, 414 Clay street, under the title of "The Mining and Scientific Press Job Printing Office."

Both of these gentlemen are practical printers of good attainments and enviable reputation. They have been long engaged in this office, and it is with pleasure that we can recommend them to the favor and patronage of all our old customers in the line of Job Printing.

A. T. DEWEY.
W. B. EWER.

P. S.—This change relates to our job printing department alone, our patent agency and newspaper business remaining as before.

DEWEY & Co.,
Mining and Scientific Press Office, 414 Clay street.
MARCH 1, 1869.

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

O. M. TAYLOR, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office, without fail.

PHOTOGRAPHY.—FOR CABINET PHOTOGRAPHS, or Enameled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
10v18 6m B. F. HOWLAND.

[From the new "Dominion.]
At this season, when coughs and colds are so prevalent, an effectual remedy, and one easily obtained, is Perry Davis' Vegetable Pain Killer. It is no new nostrum, vended by unknown agents, but has stood the test of over twenty years, and those who use the article, internally or externally, will connect with it grateful recollections of its worthy inventor.—*Hastings' Chronicle, C. W.*

PAIN KILLER.—The testimonials borne to the efficacy of this valuable medicine are sufficient to warrant its introduction in every house. Our own opinion is that no family should be without a bottle of it for a single hour. In flesh wounds, aches, pains, sores, etc., it is the most effectual remedy we know of. A bottle will last for a very long time, and its low price places it within the reach of all.—*St John News.*

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REDINGTON & CO., and HOSTETTER & SMITH, San Francisco, Cal., General Wholesale Agents. mlm

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Only **1,000** Shares will be sold at the above named price, and a portion of that number has already been engaged.
In issuing Stock the subscribers will take precedence in the order of their names.
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12v18-1t IRA G. HOYT, Secretary.

To Quartz Miners.
Having a new system of Amalgamation, styled the
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Parties having mines containing a high percentage of gold and silver, but which cannot be obtained, on account of fineness, or rebellious character of the ore, will do well to investigate. Attention given to communications.
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Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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NEW GRINDER AND AMALGAMATOR

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AMALGAMATOR AND SEPARATOR,

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Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

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Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

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STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

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GODDARD & CO.
San Francisco, May 1, 1868. 18v16tf

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Steam Engines of all Kinds, Amalgamators of all Kinds.

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Fine or Tubular Boilers, with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, height of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

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The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

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Particular attention paid to Repairing.

All work guaranteed to be done in a first class manner, and at the lowest rates. 12v17tf

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Location of Works, Corner Beale and Howard streets,
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Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 24v17-qy

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Particular attention given to repairs on Portable and Stationary Engines; also all kinds of Wood Working Machinery; Shafting, Hangers, Pulleys, etc. made to order; Screw Cutting, Iron Planing, and all kinds of JOB WORK promptly attended to.

Agents for F. S. Perkins' Engine Lathes, Planers, Upright Drills,

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Also, on hand for sale a complete set of Tools for making Blacking Boxes, consisting of Press, Dies, Shears, and Crimping Machine, etc. 4v18-qr

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Richmond Ranges; Barstow Cook with Hot Closet; Improved Empire City; French Ranges of all Sizes; Monitor Stoves, Metals, Etc., Etc.

10v18-1m

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

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San Francisco 17v13-tf

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price and address DEWEY & CO., Mining and Scientific Press office, San Francisco.

Resources and Developments.

MEXICAN INTERNAL IMPROVEMENTS.—The *Bulletin's* Acapulco correspondent says: All the late acts of Congress and public decrees tend to favor a few, and aim at cheap popularity. In the City of Mexico they are going to open a new avenue, to be called "Avenida de hombres illustries," and to be adorned with the statues of Columbus, Morelos, Hidalgo, etc. The new steamboat "Guatomatzin" is now plying on the lake of Tescoco, which will be connected with that of Chalco. But when will the water of these lakes be deepened and the channel widened? To everything in Mexico the foundation is wanting. Numerous railroad concessions have been made, but the grants remain waste paper, because the funds are wanting to carry them out.

WOOLEN FACTORY AT SAN JOSE.—Within a few days a few enterprising gentlemen of San José have formed a company for the purpose of establishing a manufactory of woolen goods in that city. The capital stock of the company is to be $100,000, and already $50,000 have been subscribed and pledged. T. Ellard Beans, S. O. Houghton, R. Peckham, Daniel Murphy and J. H. Fliekenger, have been selected as the trustees.

THE SHIP BUILDING RESOURCES OF PUGET SOUND.—It is now certain, says the *Bulletin*, that a great ship building interest will be concentrated on Puget Sound. There are a thousand miles of shore line on the Sound, deep water, very few shoal places or rocks, easy of access in nearly all weather. The timber is there. But iron enters largely into the construction of ships. There is enough iron in Cowlitz, Lewis and Thurston counties to bind the earth in chains, with the mines yet scarcely prospected. The iron ore in the Black Hills, within fifteen miles of Olympia, is of as good a quality as can be desired, in exhaustless quantities, very near to both the Sound and Hood's Canal, and all it wants is capital and enterprise to make all the railroad iron the Northern Pacific Company will ever want. The iron ore of Lake Superior is conveyed as far as Pittsburg, where it is mixed with other grades to produce certain desirable qualities of iron; the distance between the two points is nearly the same as it is between Olympia and San Francisco.

BEET SUGAR.—A report on beet sugar production in Europe has been made by W. Wadsworth, agent of the Sacramento Valley Beet Sugar Co., to whom we are indebted for a copy. This company is understood to "mean business." The officers are W. E. Brown, President; Chas. Kleinserge, vice-President; Edgar Mills, Treasurer, and Sparrow Smith, Secretary.

ALASKA RESOURCES.—A Victoria correspondent says: The Alaska salmon fisheries will be eventually far more valuable than fur seal, owing to their fine flavor, large size, good color, etc. Sitka is not Alaska. Farther north, salmon weighing from 60 to 100 pounds can be obtained at comparatively no cost. Any company embarking in the business, and only curing the bellies, could make thousands of dollars yearly. The market would be the whole world, consequently it could not be overstocked. They are worth from 20 to 25 cents per pound, when the entire fish (salted) sells for four cents. Codfish are in abundance, and in other localities than where the schooners have been fishing for them.

DISTILLERY FOR NICARAGUA.—Col. Haraythy has shipped on the Mary Belle Roberts the machinery for a distillery in Nicaragua, valued at about $10,000. He has obtained exclusive privileges for carrying on this business, from the Nicaraguan Government.

PREVOST'S LOS ANGELES SILK COMMUNITY.—Mr. Prevost, late of San José, has located in Los Angeles, where his aim is to found a city of silk; and to gather the practical silk-workers around a common center, where suitable land can be obtained. The locality, we understand, is on the San Bernardino road, about thirty miles east of Los Angeles city. A number of others have joined Mr. Prevost, and large plantings of mulberry trees are in progress.

SAN LUIS OBISPO ASPHALTUM.—A contract has been signed between Mr. Lambert Menant, of Menant & Co.'s asphaltum works of this city, and Mr. Francis Branch, of San Luis Obispo county, to work the beds of asphaltum situated on the rancho of the latter, near the Arroyo Grande, about ten miles below the town of San Luis Obispo. According to the terms of the contract, as published in the *Republican*, Mr. Menant is to commence operations within three months from the signing of the same, and is to export from a thousand to fifteen hundred tons of crude asphaltum per annum, for

which he is to pay Mr. Branch one dollar per ton.

CALIFORNIA NUTMEGS.—Perhaps it is not generally known that the native nutmeg tree grows in the Sierra Nevada range of mountains in California, but nevertheless such is the fact. We have with our own hands picked them from the tree in the upper portion of Placer county, and about the head waters of Feather river, and after properly drying them, found them fully equal in point of strength and flavor, to those imported from the East Indies. Some nineteen years or more have elapsed since that time, and of course we are unable to describe with accuracy the nutmeg tree of California, more than to say that it resembles some of the species of pine, and in fact, most people would pass it by, as we did at first, without suspecting it to be anything else but a pine tree.—*San Mateo Gazette, March 13th.*

CRANBERRIES FROM OREGON, PUGET SOUND, KODIAK, ETC.—The principal supply of cranberries for this market is obtained from the plant in its wild state. In Illinois, Wisconsin and Michigan immense tracts of marsh land exist, upon which little or nothing else is produced. On the Pacific coast, the principal supply is obtained from the country bordering on Puget Sound, where it is gathered by the Indians and sold to traders in exchange for whisky and blankets. There is quite an extensive trade carried on between San Francisco and Oregon in this fruit. Considerable quantities are also imported from the Atlantic States, which command about ten cents per gallon more than those of Oregon. Although a large portion of the supply comes from Puget Sound, they are all known in the market as Oregon cranberries. Large tracts on Kodiak Island, of the Aleutian group, are covered with the cranberry vine, which produces fruit unsurpassed in size and flavor. The Kodiak fruit readily commands in the market from 15 to 20 cents per pound more than the Oregon. It is thought that the fruit could be afforded in the market for one-half the present price, and then leave a large margin for profit to the dealers. One favorable feature in the cranberry trade is the ease with which they are prepared for shipping. They are put into kegs and barrels into which sufficient water is poured to cover the fruit, when they are headed up, and are then ready for transportation. In this State they will keep for months through hot and cold weather unchanged.

COAL MINE ON QUEEN CHARLOTTE ISLAND.—The steamer *Otter* was to leave Victoria, V. I., about the 16th, for the northwest coast, to take up a squad of miners to Skidegete, on Queen Charlotte's Island, for the purpose of working a vein of anthracite coal. The coal company have expended considerable money during the past two or three years in developing this mine, and they are sanguine of having struck a good vein. They expect to place their coal in the market this season.

Gold having been found in many places, it is suggested that the prospecting of deep digging can be done to better advantage in winter than in summer, provided the ground be saturated with water, as in winter the surface water will be frozen, which would render sinking of shafts less expensive.

GEO. E. ROGERS,
(Successor to C. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qr10pnr

Pump Leather.

The attention of MINING COMPANIES, and others requiring a superior article for Hydraulic purposes, is invited to the heavy Oaked Tanned Pump Leather, manufactured and prepared expressly by the undersigned.

TRADE SANTA CRUZ TANNERY MARK
E. JONES & Co

Constantly on hand and for sale by
GRAY, JONES & CO.,
Depot of the Santa Cruz Tannery,
418 Battery St., San Francisco.
25v17-1y

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PAID TO
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And Photographs, Ambrotypes and Sun Pearls, by first class artists, at the lowest rates,
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☞Sole Agents for Barstow's Metallic Burial Cases and Caskets.
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Interest paid on Deposits. Money Loaned on Real Estate.
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PROSPECTUS
—OF—
THE SALT POINT
SILVER MINING COMPANY.

This mine is situated on the western slope of Treasure Hill, about half a mile from Treasure City.

It is admirably located for working purposes, being on the hillside, at an elevation of six hundred feet above the flat or "swale" through which the road to Shermantown passes. The road is on an easy grade, about one mile from Shermantown, where the principal mills are located. The flat in front of the mine affords ample room for the dumping and piling up of milling ore.

The mine is surrounded by fine groves of trees of a large growth; the wood of which for fuel can be purchased at $8 per cord, and at a corresponding rate for timber for mining purposes.

The ledge lies favorably for working by a tunnel or cut, it is well defined, and apparently from ten to twelve feet in width. Assays of the rock are remarkably uniform in character, ranging from $350 to $385 per ton.

Work is now being done upon the mine, and it is believed that the sale of One Thousand Shares of Full Paid Stock at $2 50 per share will give all the working capital necessary for its development. The Company are now working the mine, through a shaft from fifteen to twenty feet in depth, and, so far as developed, the mine shows itself to be one of the richest and most extensive in this wonderfully rich District. Within a few days the owners have been offered for the whole mine $750,000, but prefer to sell a portion for working capital at a lesser rate.

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ACETIC ACID,
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ACIDS AND CHEMICALS OF ALL KINDS.
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"IMPROVED SPRING-BED BOTTOM."
(Patented July 21st, 1868.
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Persons going to White Pine will greatly promote their comfort by taking one of these Patent Bottoms, which is secured to a folding Bedstead, the cost of which is less than that of the materials at White Pine.
Wareroom, No. 1002 Market Street,
P. HUDSON, Proprietor.
☞Call and examine. Open until 8 o'clock P. M.
6v18qr

THE ANCIENT CHINESE IN AMERICA.—It is a well known fact that the Chinese have, in their musty libraries of hy-gone ages, a narrative of travels in a country called Fusung, situated far to the eastward, and beyond the great world-ocean. This account is rendered definite and substantial by the accompaniment of a map—which can be seen at the Mercantile Library—representing, with a considerable degree of accuracy, the Pacific Coast of North America, including, as the most marked and recognizable delineation, the peninsula of Lower California. The same map represents the Atlantic side of the American Continent, but with such glaring inaccuracy as to make it evident on the surface that the authors drew entirely on their imaginations for their data. Owing to the difficult nature of the Chinese language, few of the details have been brought to light. It is now reported that Professor Carl Neumann, the linguist, late of Munich, but latterly of Berlin, who has interested himself specially in American historical questions, has ascertained, by the most incontestable proofs—the Chinese Year Book—that a company of Buddhist priests entered the Continent of America by the way of Alaska, a thousand years before Columbus, and explored thoroughly and intelligently the Pacific borders, penetrating southward into the tropical regions of the Toltecs and Aztecs, or the land of "Fusung," so called after the Chinese name of the Mexican aloe. California they examined carefully, but did not cross the Sierra Nevada. Ancient documents in the Chinese archives, detailing these discoveries, are to be translated.

RUBY VALLEY, in Nevada, is said to derive its name from the fact that rubies abound in the sands of the mountain brooks flowing through it. These are genuine gems, perfect in form and color, and wanting only size to render them valuable. They have the peculiar octagonal shape of the crystallized quartz, and their size varies from that of a pin's head downwards.

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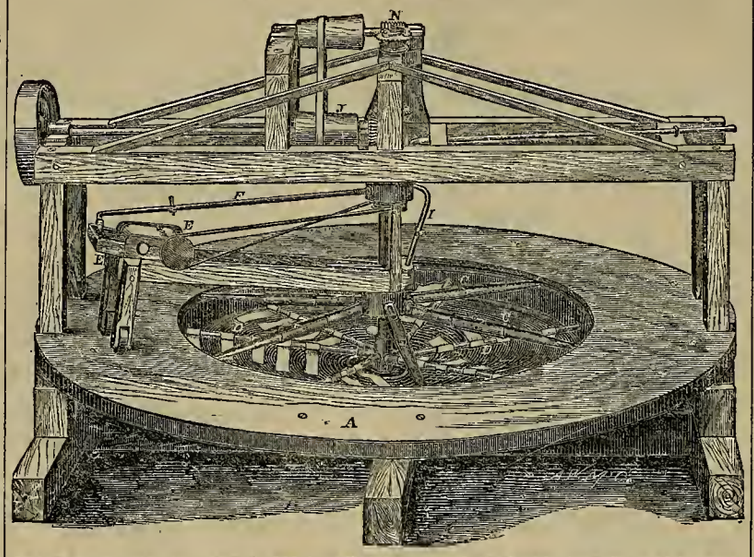

One Machine, costing about $1,300, is sufficient to work the Sands from 25 to 30 Stamps,

Less power being required than for any other Machine. The attention of quartz millmen throughout the State is directed to the subjoined certificates, and if they desire they can visit the Amador Mining Co's mill, near Sutter Creek, the Eureka Co's mill at Grass Valley, or the Banner Co's mill near Nevada, and see for themselves.

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GRASS VALLEY, Jan. 4th, 1869.—This is to certify, that we have used the Paine, Stephens & Harry Concentrators for over twelve months. They have given us entire satisfaction, and are the best we ever used. WILLIAM WATT, Supt. Eureka Mine.

This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.
WM. L. TISDALE, Supt. Star Spangled Banner Mine.

NEVADA CITY, Oct. 26, 1868.

Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE, at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.

13v16eow

Pacific Protective Association of California.

INCORPORATED OCTOBER, 1868.

PROSPECTUS.

OBJECT.—The object of this Association is to secure a cash payment, within sixty days after the death of a subscriber, to his or her heirs or assigns of as many dollars as there are individuals of the class to which said deceased subscriber belonged.

MEMBERSHIP.—The subscription fees are Ten Dollars at joining, and One Dollar on the death of each subscriber. The One Dollar from each subscriber is paid to the heirs or assigns of the deceased.

THE FUNDS.—The By-Laws of the Association require that a portion of the money received as subscription fees shall be a Sinking Fund to meet assessments falling due by the delinquencies of subscribers. The balance of the money received to be used for the payment of the expenses incurred by the Association.

MEMBERS.—A subscriber failing to pay his or her assessment of one dollar within Thirty days from receipt of notice forfeits his or her Certificate, and all claims upon the Association, unless good cause is shown for further delay. A subscriber can forward money in advance, which amount will be credited on future assessments. The subscribers are divided into classes including males and females Each class is limited to 5,000 subscribers. As classes are filled, new ones will be formed. No person is so poor that he cannot pay Ten Dollars at joining and One Dollar occasionally, thus securing $5,000 to his or her heirs or assigns.

ADVANTAGES.—The advantages of this Association are, that no *money panic* can affect it. Its benefits are easily obtainable by all, and every subscriber added to the Association enhances the interest and protection of all; the amount paid being so small, and only at long intervals, that any person can secure for his family a competency upon his death.

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Any one that has not stated his or her age correctly, will forfeit all money paid and his or her Certificate.

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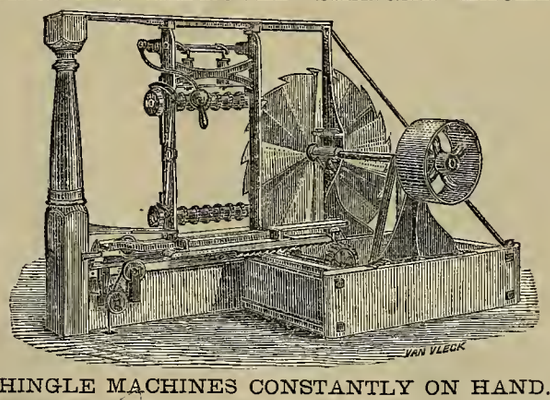

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Fluctuations in Leading Mining Shares for the past Six Months.

NAME OF COMPANY.	Sept. 10th.	Sept. 20th.	Sept. 30th.	Oct. 10th.	Oct. 20th.	Oct. 30th.	Nov. 10th.	Nov. 20th.	Nov. 30th.	Dec. 10th.	Dec. 21st.	Dec. 30th	Jan. 11th.	Jan. 20th	Jan. 30th	Feb. 10th.	Feb 20th.	Feb. 27th.
Gould & Curry.....per ft.	94	84	101	100	96	89	70	82½	108	106	110	95	115	107	103	103	105½	105
Ophir.....	18	17	17	19¼	19	19	19	23	38	36	40	38	37	38	38½	41	41	41
Savage.....	91½	90	105	110¼	82½	75	60	70½	75	74	84½	78	78	74	78½	63	67½	67½
Chollar-Potosi.....	158	149	158	185	146½	136¼	126	144½	175	159	188	160	176	170	171	163	166	166
Hale & Norcross.....	53½	48½	49	49¼	44	41¾	38½	63	76	78	64	46	65	59¾	70	78	86	80
Sheba.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Daney.....	....	3½	6¼	6½	5	6	4	5	6	6½	5	3¾	3	3½	3	4½	3½	3½
White West.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Bullion.....	15	16	18¼	15	....	14	12	16	18	20	18	16	30½	30	28½	20	22	21
Real del Monte.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
El Dorado.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Overman.....	83½	81	83	89½	81¾	70¾	43	46	51	49	90	35½	79	81	81	71	68½	69
Sierra Nevada.....	27	20	16½	20	18½	20	22½	16	....	....	....	....	33	32	20	28	21	28½
Yellow Jacket.....	1,270	1,150	1,460	1,580	1,490	1,402½	905	1,210	1,705	1,360	1,300	1,265	1,510	1,497½	1,460	74	69	72¾
Amador.....	2 3	240	240	228	230	207	215	217½	227½	231	241	239	250	240	250	255	272½	275
Lady Bryan.....	16	12	16	14	10	10¾	10	6	19	18	20	17	16¾	16	13¾	11	7	15
North American.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	22	13	12
Baltimore American.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Melones.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Sacramento.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
White & Murphy.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Imperial.....	108	97	108	112	112	101	89	100	106	117	123	111	114	146	141	129	110	111
Crown Point.....	48	44¾	47	45	44¾	43	33	41	49	53	5 3¾	53½	54	65	67	68¾	68	73¾
Belcher.....	160	125	135	152½	140	127	125	140	180	190	175	165	160	158	21	90	90	90
Alpha.....	51	45¾	47	54	42½	39	27	36¾	48	58	47	44	58	59	59	52½	53	54
Empire M. and M. Co.	115	....	101	100	....	103	....	99	113	115	118	120	120	130	129	100	....	75
Confidence.....	....	30	....	....	....	....	....	28	60	37	40	38½	37	35	....	34	....	31
Justice and Independent ..	....	....	6½	....	....	4½	....	8	....	....	8	8	5	4½	....	14½	....	15
Exchequer.....	....	12	14	15	14¾	14	14	17½	28	20	25	25½	28	27½	....	27	27	25
Kentuck.....	411	295	288	262	280	262½	189	247½	229	219	237½	255	140	215	232	228	218	242
Gold Hill Q. M. Co.....	62	....	....	....	....	50	....	....	92	50	80	70	....	....	....	....	55½	....
Segregated Belcher.....	10½	9	9¾	9½	8¾	8¼	6½	6½	7¾	8¾	9	8¼	8	8½	8¾	9	12¼	11

New Incorporations.

Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

MERRIMAC MILL AND MINING CO.—Butte County. March 12th. Capital stock, $800,000; 8,000 shares, $100 each. Trustees: Jas. A. Pritchard, S. A. Raymond, John H. Warren, Lyman Rainow and J. D. Littlefield.

MUTUAL REAL ESTATE CO.—San Francisco. March 12th, Capital stock, $52,500; 350 shares, $150 each. Trustees: Edmund Scott, Thos. Anderson, Stephen T. King, E. C. Lovell, Wallace Everson, Geo. W. Fisher and M. G. Cobb.

ALLISON RANCH MINING CO. — Grass Valley, Nevada County. March 12th. Capital stock, $600,000; 6,000 shares, $100 each. Trustees: Alfred E. Davis, M. Colbert and J. D. Fry.

RED JACKET S. M. Co.—White Pine, Nev. March 12th. Capital stock, $1,000,000; 10,000 shares, $100 each, Trustees: Geo. L. Kenney, J. M. McNulty, Smyth Clark, F. J. Thibault and H. L. Van Wyck.

PAMLICO MINING CO.—White Pine, Nev. March 12th. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: A. P. Everett, Thos. J. Poulterer, J. A. Driukhouse, N. Hayes and E. Wertheimer.

EMPIRE MINING CO.—White Pine, Nev. March 13th. Capital stock, $800,000; 8,000 shares, $100 each. Trustees: Geo. W. Prescott, Chas. Bonner, Jos. Barron, G. W. Beaver and D. J. Williamson.

ARGYLE TUNNEL AND MINING CO.—White Pine, Nev. March 13th. Capital stock, $1,400,000, 14,000 shares, $100 each. Trustees: L. Godcheaux, A. Godcheaux, Anson Averill, W. H. Smith and B. L. Schmitt.

PILOT MINING CO.—White Pine, Nev. March 13th. Capital stock, $2,400,000; 24,000 shares, $100 each. Trustees: Jno. Hewston, Jr., F. L. Castle, W. B. Swain, H. E. Green and C. T. Fay.

WEST EBERHARDT TUNNEL AND MINING Co.—White Pine, Nev. March 13th. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: J. M. Buffington, L. Godcheaux, A. Godcheaux, James Adams and W. H. Smith.

SOUTH EBERHARDT TUNNEL AND MINING Co.—White Pine, Nev. March 13th. Capital stock, $1,440,000. 14,400 shares, $100 each. Trustees: B. L. Schmitt, L. Godcheaux, Jos. L. Wilson and Jos. R. Badger.

PHILADELPHIA BREWERY TUNNEL AND MINING CO.—White Pine, Nev. March 13th. Trustees: L. Godeheaux, James Adams, A. Godcheaux, J. Wieland and Jos. M. Wilson.

NORTH AMERICAN MINING CO.—White Pine, Nev. March 13th. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: S. Pinkham, H. C. Hemenway, J. A. Eaton, W. E. Wood and Geo. R. Spinney.

GREAT UNION TUNNEL AND MINING Co. White Pine, Nev. March 13th. Capital stock, $6,000,000; $60,000 shares. $100 each. Trustees: Geo. D. Roberts, John Sime, Chas. L. Low, Geo. Oulton, Patrick Henry, F. F. Low and W. M. Jansou.

STATE UNIVERSITY HOMESTEAD ASSOCIATION.—Alameda County. March 13th. Capital stock, $28,470; 39 shares, $730 each. Trustees: S. Lungstadler, Valentine Smith, Ebenezer Knowlton, George Tait, Peter N. Ryau, Rev. L. Walker and H. G. Prince.

WASHINGTON MINING Co.—White Pine, Nev. March 13th. Capital stock, $2,500,000; 5,000 shares, $500 each. Trustees: Nath. Page, Geo. Webber, B. F. Tuttle, T. B. Wingard and J. P. Dyer.

OPAL SILVER MINING Co.—White Pine, Nev. March 13th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: W. J. Williams, F. Lawton, D. C. Ferris, Jno. A. McQuaid and M. S. Martin.

SNOW FLAKE SILVER MINING Co.—White Pine, Nev. March 13th. Capital stock, $1,100,000; 6,875 shares, $160 each. Trustees: W. A. Darling, D. W. Taylor, H. S. Warren, A. C. Taylor and J. H. Brewer.

OAKLAND NORTH S. M. Co.—White Pine, Nev. March 13th. Capital stock, $600,000; 6,000 shares, $100 each. Trustees: J. H. Alderson, Geo. W. Stewart. Sam. E. Oakley, E. O. Brown and John Gray.

OAKLAND PROSPECT HOMESTEAD ASSOCIATION.—Brooklyn, Alameda County. March 13th. Trustees: J. F. Crosett, Geo. R. Eckley, Wm. Hollis, Amos Currier, Juo. Bays, H. L. Chamberlain, J. H. Coleman, C. J. King and Jas. Collins.

CARRINGTON M. Co.—White Pine, Nev. March 13th. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: A. Kohler, R. E. Raimond, J. N. Eckel, J. M. Shotwell and Julius A. Palmer, Jr.

U. S. GRANT M. Co.—White Pine, Nev. March 16th. Capital stock, $80,000; 1,600 shares, $50 each. Trustees: Chas. McCormick, Jos. R. Rollin and C. V. Hubbard.

NORTH STAR M. Co.—White Pine, Nev. March 16th. Capital stock, $1,000,000; 20,000 shares, $50 each. Trustees: Thos. T. Dougherty, H. G. Coward, James Patterson, Bernard Lande and L. P. Davis.

BLUE EAGLE M. Co.—White Pine, Nev. March 16th. Capital stock, $600,000; 6,000 shares, $100 each. Trustees: E. L. Smith, J. S. Curtis, John Lunders, J. A. Eatou and S. Pinkham.

CHAS. SUMNER S. M. Co.—White Pine, Nev. March 17th. Capital stock, $600,000; 6,000 shares, $100 each. Trustees: Anson Averill, R. A. Hawkius, J. M. Buffington, J. W. Tabor and S. F. Tortell.

NANTUCKET M. Co.—White Pine, Nev. March 17th. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: W. H. Brown, T. B. Bishop, Ira G. Hoit. W. H. J. Brooks and J. Holmes.

SOUTH POINT MILL Co.—San Francisco. March 18th. Capital stock. $50,000; 5,000 shares, $10 each. Trustees: Cyrus Palmer, J. J. McKinnon, J. P. Sheldon, S. H. Harmon and C. A. Hooper.

GERMANIA CONSOLIDATED S. M. Co.—White Pine, Nev. March 17th. Capital stock, $1,000,000, 20,000 shares, $50 each. Trustees: Theo. Meetz, R. J. Touin, J. Liebe, H. Hadeler and J. L. Koster.

LARCOMBE S. M. Co.—White Pine, Nev. Capital stock, $280,000; 1,400 shares, $200 each. Trustees: Jos. Mandlebanm, W. M. Jensen, J. S. Fried, Jos. Larcombe and Chas. Kohn.

ELECTION OF OFFICERS.—CALIFORNIA WHITE PINE M. Co.—March 16th. President and Treasurer, D. W. Connolly; Vice-President, John S. Hager; Trustees, D. W. Counolly, J. S. Hager, C. J. Brenham, Lloyd Tevis, L. L Robinson. I. Friedlauder and L. Maynard.

ALLISON RANCH M. Co.—Grass Valley, Nevada County. March 16th. President, Alfred E. Davis; Vice-President, J. D. Fry; Secretary, B. B. Minor.

CORDILLERA G. & S. M. Co.—Chihuahua, Mexico. March 15th. Trustees; Nathaniel Page, Wm. H. Tillinghurst, Henry R. Reed, Wm. A. Wade and Isaac M. Rutan; President, Nathaniel Wade; Secretary and Treasurer, Henry R. Reed.

B. P. SPECTACLES.—The genuine Brazilian Pebble, so cool to the eye, can be had at C. Mullers', 205 Montgomery street, Russ House Block.

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POSTMASTERS are requested to punctually inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

New Mining Advertisements.

Cordillera Gold and Silver Mining Company.—Morelos District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twentieth (20th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the tenth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary.
Office, 321 Washington street, San Francisco. mar20

Troy Ledge Mining Company, White Pine District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on Friday, the twenty-third day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M BUFFINGTON, Secretary.
Office, 37 New Merchants' Exchange, California street, San Francisco. mar20

Mining Notices--Continued.

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of March, 1869, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the sixth (6th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of April, 1869 to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
Office, Room 37 New Merchants' Exchange, California street, San Francisco. mar13

Glenwood Mill and Mining Company, Greenwood, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of February, 1869, an assessment of twenty-five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, Room 11, No. 431 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the second day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WILLIAM VALE, Secretary.
Office, 434 California street, San Francisco. feb27

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the nineteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
John A Johnson	283	1	$1 50
J S Adams	23	5	7 50
J S Adams	325	2	3 00
J S S Robinson	322	5	7 50
Mary C Bridges	501	12½	18 75
Catherine Jones	144	30	45 00
Catherine Jones	155	17	25 50
Catherine Jones	238	5	7 50
T B Clark	375	10	15 00
T B Clark	386	22½	33 75
E M Long	384	10	15 00
G Goodell	248	15	22 50
G Goodell	342	5	7 50
Wm Davidson	340	5	7 50
Wm Davidson	74	½	75
Ann Hogan	176	7	10 50
Charles Fisk	150	5	7 50
W J Thomas	371	3	4 50
Daniel H Dickinson	294	10	15 00
Daniel H Dickinson	359	10	15 00
L E Wahlberg	277	5	7 50
Henry Jardine	188	5	7 50
Henry Jardine	304	3	4 50
John W Jardine	330	12½	18 75
Henry Jardine	331	5	7 50
Henry Jardine	334	15	22 50
Hepburn James	116	5	7 50
Hepburn James	158	5	7 50
Hepburn James	217	10	15 00
A Wagner	207	5	7 50
Chas Saunders	224	5	7 50
Caroline A Nelson	293	2	3 00
George Brosius	229	10	15 00
James Wylett	231	5	7 50
H T Bjiske	381	4¼	6 40
Loni Blanding	237	28	42 00
John O Slavin	254	1	1 50
Henry Emo	391	3	4 50
Henry Emo	387	7½	11 25
E F Gibson	270	12	18 00
E F Gibson	271	12	18 00
E F Gibson	274	5	7 50
E F Gibson	302	3	4 50
Wm Jones	246	3	4 50
John Cairns	249	70	105 00
John Bolls	381	10	15 00
John Bolls	256	8	12 00
D C Riddle	258	5	7 50
Julius Zabel	259	5	7 50
D D Scott	260	5	7 50
J A McMahon	263	7	10 50
R K Love	275	5	7 50
R K Love	303	4	6 00
R K Love	329	12	18 00
R K Love	332	5	7 50
A Wechselmann	281	4	6 00
Wm West	352	5	7 50
N Graff	347	½	25
R S Cutter	366	3½	5 75
R S Cutter	384	10	15 00
E Ekelund	362	3	4 50
E Ekelund	364	2	3 00
Philip Myers	370	2	3 00
M Long	385	22 7-16	33 60

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Wednesday, the seventeenth day of March, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. CROWNINSHIELD, Secretary.
Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. mar6

POSTPONEMENT.—The above sale is hereby postponed until Monday, the fifth day of April, 1869, at the same hour and place. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.
mar20

North American Wood Preserving Company. Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the twelfth day of March, 1869, an assessment of one ($1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 430 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourteenth (14th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the first day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.
Office, 430 Montgomery street. San Francisco mar13

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of January, 1869, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 426 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth (5th) day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirtieth (30th) day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary.
Office 426 Montgomery street, San Francisoo. jan30

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until the second day of April, 1869, and the sale thereof until Tuesday, the twenty seventh day of April, 1869. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary.
mar6

Star Creek Mining Company.—Location: Star District, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of February, 1869, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary at San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-ninth day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HORACE MORRISON, Secretary,
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VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principlo excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

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AND FOR ALL EXPOSED SURFACES.

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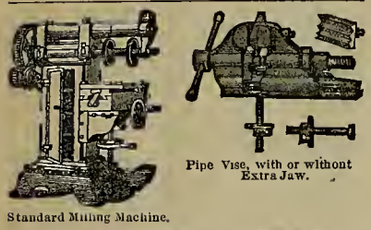

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Standard Milling Machine.

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OF BOSTON, MASS.

Extra jaw, and heavy Vises. Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

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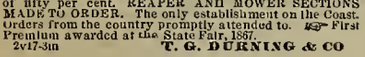
SAN FRANCISCO.



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M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

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CALIFORNIA TOOL WORKS,
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SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted.

21v17-qy **J. WEICHHART, Proprietor.**

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Boiler Scraper and Tube-Cleaner.

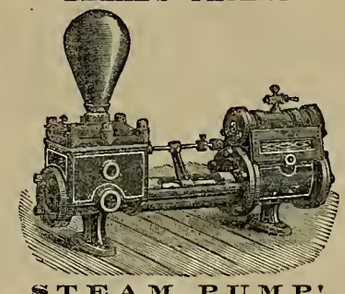
IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

BLAKE'S PATENT



STEAM PUMP!

This Pump is warranted superior to any in the market, for Breweries, Sugar Houses, Tanneries, Boiler-Feeders, Steamboats, Mining and Fire purposes, etc. It throws a full stream of the thickest beer mash without clogging, and sugar syrup boiling hot without difficulty.

Warranted a positive Pump under ALL circumstances; it never gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

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Iron and Metal Importing Company
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1v18.tf

Engineering.

BRINGING WATER INTO OAKLAND.—The "California College Water Company" has appropriated several springs and rivulets in the hill back of the University ground, now belonging to the State College, and is asking of the Supervisors of Contra Costa the privilege of taking, at prices to be fixed by public appraisement, the water from the San Pablo and Sobrante ranches, aitnated eight miles north of Oakland. The artesian wells of Oakland do not overflow, and are said not to be unsatisfactory. It is expected that the growth of Oakland will make the water supply franchise valuable in time.

RECLAMATION OF SWAMP LANDS BY STEAM POWER.—The acquisition of correct knowledge as to the depth and duration of overflow of swamp lands, is the first step to reclamation; and the next is the construction of a dike high enough at least to keep off the ordinary floods. The Sacramento *Union* quotes the *Alta's* description of the Fowler steam plow driven by a stationary steam engine, and adds that it is just the thing for diking and plowing the tules. The *Union* says: "Generally the tules lands on the sloughs of the San Joaquin and Sacramento are submerged from two to three feet in average winters, and not exceeding six feet in extraordinary floods. This may appear to be a rash statement, yet its truth will be apparent when it is known that the highest point attained by the great flood of January, 1862, at the city of Stockton, was but eleven feet eight inches above low-water mark at ebb tide. There were no tule lands between Stockton and Snisun Bay which would not have been fully protected from that extraordinary flood by dikes eight feet above the natural level of the land. Against ordinary floods, embankments of five feet would suffice. Yet even these are not expensive to be thought of in any system for general reclamation, when the work has to be done with pick and shovel, with labor at its present rates. It is true small farms have been so reclaimed—some as large as fifteen acres—in every case paying well, though at a low estimate the land so reclaimed can hardly have cost less than $250 per acre. No lands in the United States are as prolific and unfailing."

RAILROAD IN PERSIA.—The shrill whistle of the railway engine is soon to be heard in Persia. The Shah has granted to a company of Englisb capitalists the exclusive right to construct railways in the country for a period of twenty years. These capitalists begin operations with a short road extending from the capital to the suburban village of Rey, a famous weekly resort of pious Teheranlees. Ground has been broken, and the engineer employed estimates that the line can be constructed and stocked for less than $500,000, on which the passenger traffic of some 40,000 devotees a week will, he reckons, yield a remunerative dividend, exclusive of an eight per cent. guarantee.

RAILROAD AND MINING EXPLORATIONS.—Mr. John Nystron, who lately published a report on his previous expedition into the interior of Peru, has been supplied by the Peruvian government with funds for setting out on an exploring expedition in the direction of Chanchamayo, the object of which is said to be the opening up of the country, and to report as to the feasibility of connecting those distant regions with Lima by means of the iron horse. Another well known gentleman, Mr. Josiah Harris, has been engaged by Government to make mineralogical researches—there being a belief of the existence of extensive coal fields to the north, not very far from the capital.

BUILDING RAILROADS OVER THE ALPS.—Mr. Fell, an English engineer, has offered to the Swiss Federal Council to undertake the construction of their railroads over the Alps for a guaranteo of interest of 600,000 francs annually. He estimates the cost of that over the Simplon at from eleven to thirteen millions; of the St. Gothard at from thirteen to fourteen; and at fifteen to eighteen for the Luckmanier.

BRITISH-AMERICAN OVERLAND WAGON ROAD.—At a recent people's convention held in British Columbia, resolutions were adopted setting forth a scheme for the construction of an overland wagon road from Lake Superior to the head of Fraser River—the expenditure to be guaranteed by the British Government. A road from the head

of Lake Superior to the Red River settlement is now being made at the expense of the Canadian Government.

SOUTH AMERICAN RAILWAY PROGRESS.—The present Peruvian government is doing all that it can with respect to railways and other public works. The two railway lines actually in construction from Arequipa to the coast, and from Lima to Huacho are being actively proceeded with, and the latter line, it is stated, will be opened as far as Chancay, by the end of the year. The proposal presented by Mr. Meiggs, the railway contractor, to take a survey and make the preliminary tracings for the prolongation of the former line to Puno and Cuzco has been, moreover, accepted. Orders have likewise been given to make a survey of a line that will join the city of Tacna with Puno and the frontiers of Bolivia via Lake Titicaca.

TELEGRAPHIC ITEMS.—It is expected that the Western Union Telegraph Line will be in working order through to White Pine in the course of two weeks. The operations of construction have been considerably retarded by the snow.

It has been definitely decided to land the American end of the French-Atlantic cable on a high knoll on the Duxbury shore, in Plymouth county, Massachusetts. From Duxbury the cable will communicate with New York by means of land wires. The Great Eastern will cross with the cable in June—sailing from Brest and convoyed by a fleet of French naval vessels as tenders.

More than 3,000 miles of telegraphic cables have been laid in the last year, as appears from the following list: From Malta to Alexandria, 920 miles; Tasmania and Australia, 205 miles; French Atlantic cable, 700 miles; Baltic Sea, 320 miles; Persian Gulf, 500 miles; Swedon, Norway and Italy, 100 miles; from Denmark to Newcastle, 340 miles; between Cuba and Florida, 120 miles. The projects for a further increase of lines are abundant also, and during the year 1869 it is not unlikely that quite as many miles of cable will be laid as during the year 1868. Furthermore the Indo-European Telegraph Association contemplates a double wire line overland from Nordenoy through Prussia, Russia, and Persia, as far as Teheran, to connect with existing cable lines; and the Anglo-Mediterraneau Co. means to extend the present telegraphic system by a cable to run from Suez, through the Red Sea, to Aden, and thence to Bombay. A line of cable between Cuba and Jamaica, and Panama, is also contemplated, and another from Scotlane to the coast of Norway.

SCIENTIFIC EXPLORATION AND TRAVEL, as a road to distinction, has been amongst educated and titled Germans, possessed at the same time of wealth, ever since the youth of Humboldt. An expedition of scientific men has just started out from Vienna to explore Eastern Asia and South America. The object is commercial as well as scientific, and is pursued under the authority and at the expense of the Austrian Government. Karl von Scherzer is the chief, who goes by way of Egypt, the East Indies, China and Japan, thence to San Francisco, and from here to Buenos Ayres. He left Vienna on the 20th of last December.

ROMAN MORTAR.—The mortar used in the Roman aqueducts, still in existence, was, it is said, composed of pure lime mixed in large proportions with fragments of brick coarsely powdered. These dry fragments absorbed the moisture, and hastened the solidification of the mortar.

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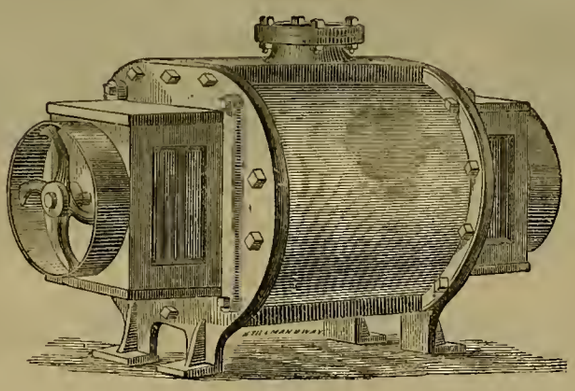
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



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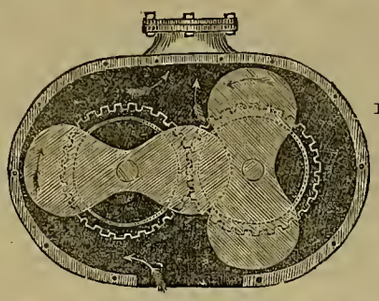

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CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

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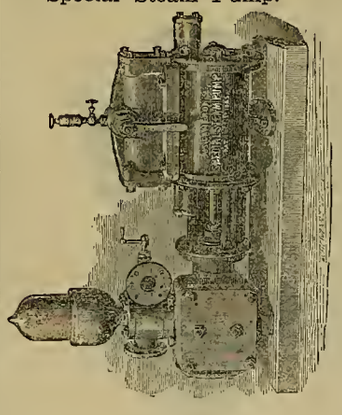
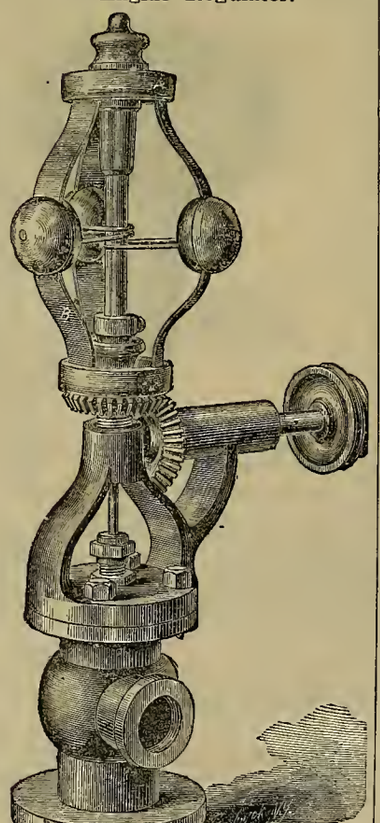


PICKERING'S Engine Regulator.



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Formerly Chemical Examiner in the U. S. Patent Office may be employed professionally as a Scientific Expert. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞Written communications preferred.

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WORCESTERSHIRE SAUCE

Declared by connoisseurs to be the only GOOD SAUCE.

The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for

Lea & Perrins' Sauce,

and see that their names are upon the wrapper, labels, stopper, and bottle.

Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L. and P. give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.

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Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc., and by Grocers and Oilmen universally. Agents, CROSS & CO., San Francisco. 8v18-1y

Caution against Fraud.

SULPHURETS;
What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

For sale at this Office.--Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns, 21v15tf

New Inventions.

SAFETY HOOK.—We were recently shown a new style of safety hook, the invention of Andrew Peasley, of this city, which is far superior to any hook of the kind we have ever seen. It is absolutely impossible for any bucket to become detached from it by any kind of accident that can happen in the course of lowering or hoisting, and at the same time it is so strong and simple in construction that it is impossible for it to break or get out of order. Cages being in use at all of our principal mines, there is little demand for the hook here, but in White Pine, where buckets, whims and windlasses are everywhere used, the hook would be most useful. A specimen hook will be sent out to White Pine to-day.—*Enterprise.*

A SAILING VELOCIPEDE.—An improved three-wheeled velocipede, with a mast and large square sail, was navigated over the Point Lobos road lately, and attracted much attention from its nondescript appearance. The machine was managed by its builder, Mr. David R. Smith, who made good time, up hill or down, and particularly when returning to the city with a favorable wind. In dimensions it is about nine feet in length by five in breadth, and not unlike a light-wheeled buggy. The hind wheels are four feet in diameter, and the forward one about thirty inches. In its management the sail and forewheel are both adjusted by cords attached to the driver's seat. When the sail is set the view ahead is nearly obstructed, but by means of two large holes or eyes, cut in the canvas, at about the hight of the head, the vehicle is directed with safety. An application for a patent has been made for this unique contrivance.—*S. F. Herald.*

SWEET JUICE OF THE GRAPE.—Dr. B. F. Headen of Santa Clara, claims to have discovered a process by which the juice of the grape can be kept without fermenting, for years. This wine is said to be entirely free from alcohol, and properly corked in bottles, will keep perfectly sweet. Dr. Headen proposes to manufacture this wine for sacramental purposes in the churches.

IMPROVEMENT IN GUIDE FOR SEWING MACHINE.—William H. Van Vlear of Stockton, has obtained a pateut for a valuable improvement in guide to be used with the "presser-foot" for sewing machines. The nature of the invention consists in providing the guide with a clasp or turn at the toe, and two flanges projecting upward, one from either side, inclining slightly toward each other, except at the extreme top edges, where they flare a little, for the purpose of adjustment to the foot, so that when adjusted to the foot the clasp hooks over the toe, and the flanges clasp the sides of the foot, thus holding the guide firmly thereto, without further fastening by means of screw or otherwise.

GRAPES PERENNIAL.—H. C. Shattuck, who owns a fine vineyard about three miles from Woodbridge, claims to have discovered a cheap and efficient plan by which the market may be supplied with grapes throughout the whole year.

PHOTOGRAPHY AND THE PRINTING PRESS. The Court Photographer of Munich, J. Albert, is said to have discovered a process by which he can multiply copies of all sorts of photographs to any extent through the press. The smallest and largest pictures can be re-produced with great rapidity, as perfectly as by the old process. Large supplies of favorite pictures can be furnished without regard to the state of the weather, and in a very brief period of time. Albert's photographs of the renowned pictures in the two Pinckotheks, and of Kaulbach's productions, are sold throughout the world.

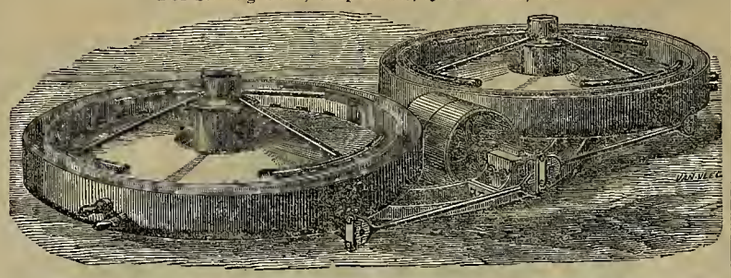
PETALUMA WATER VELOCIPEDE.—An inventor at Petaluma, whose name is not given, has attempted the construction of a water velocipede which is described as follows in the Petaluma *Journal* of the 11th:

The machine is about twenty feet long, and consists of three barreled-shaped air-tight drums, resting in the water, two aft and one forward, on the surface of which are paddles, about four inches wide, at intervals of eighteen inches. Between the drums there is a crank, which is attached to the drums by means of bells. Afloat and in motion, it has the appearance of three great barrels possessed of internal powers of locomotion. The drums draw about seven inches of water with six men aboard, are capable of floating many tons, but in his calculations of speed, the inventor was somewhat disappointed.

A DISPATCH of yesterday, March 19th, reports that the Union Pacific Railroad track has been laid fifteen miles this side of Ogden.

HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prator Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four or them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868

MR. MORGAN HUNGERFORD—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

In future these Pans will be manufactured by GODDARD & Co., at the Pacific Iron Works, San Francisco, which is a guarantee that they will be built in the most substantial manner.

These Pans may be seen at the Pacific Iron Works, First street, near Howard, San Francisco.

Address,

GODDARD & CO., San Francisco.

Or M. HUNGERFORD, at the Pacific Iron Works.

18v17eow

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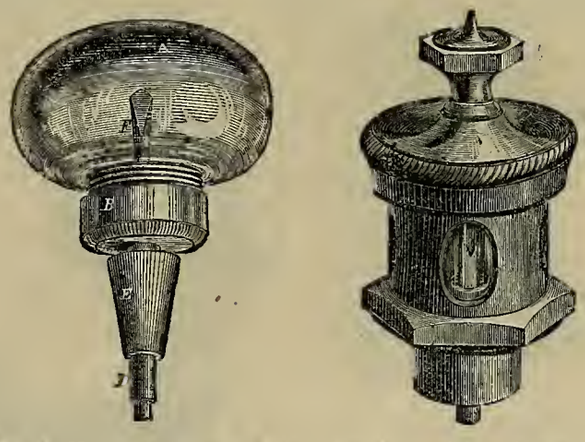

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REFERENCES:

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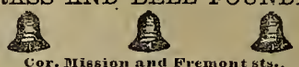

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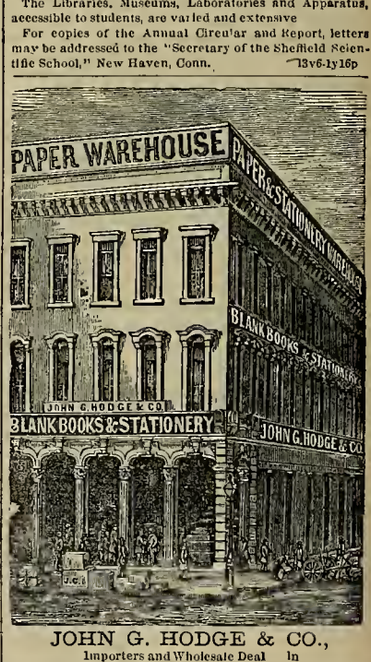
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BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, MARCH 27, 1869. VOLUME XVIII. Number 13.

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Light for Hydraulic Mining.

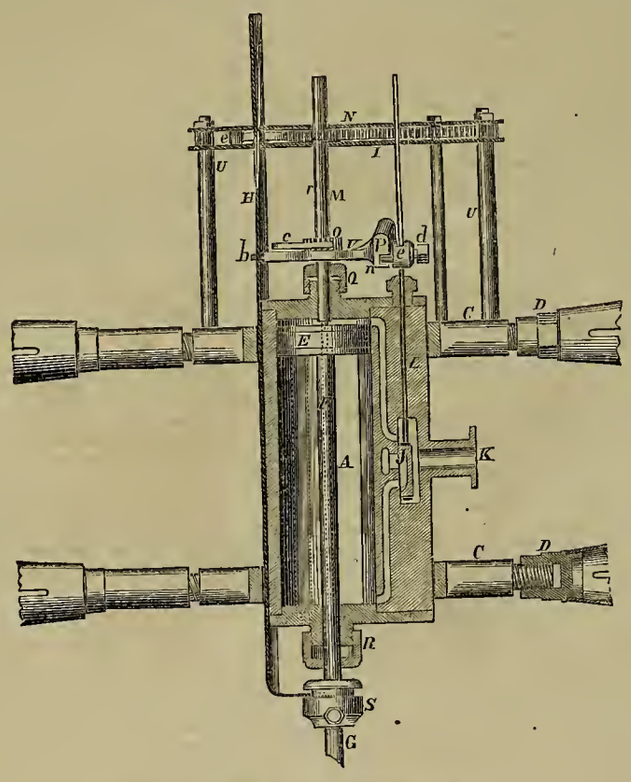
H. C. Kelsey, of Dutch Flat, inquires whether there is in existence any lamp or illuminator by which a hydraulic miner can throw light upon a bank at a distance of 200 feet, sufficiently strong to work by. Besides the very expensive electric, fresnel, and the calcium lights, the only practicable lights that we are aware of are the kind used in front of locomotives, and the benzine lamp of Mr. John J. Hucks of this city. The locomotive lamp itself is not different necessarily from an ordinary argand burner, its principal feature being the parabolic reflector, which throws a cylinder of light in any direction that may be desired and to a great distance. The cost of this paraholic reflector alone is about $100, that of the lamp being inconsiderable. Particulars may be learned from any railway engineer, or from Conroy & O'Conner of this city, metal importers, who deal in articles of the kind. Several of these, at 200 feet distance, would answer the purpose, but would of course, be exposed to danger from caving. A cheap light, which cannot be put out even by a gale of wind, nor by very copious sprinklings of water or rain, is Mr. Huck's benzine light. This costs $5, and lights to read by at a distance of 30 or 40 feet. A number of them might be stuck into a bank; and a little tumbling and battering would not do them much injury. The cost for oil is about the same as for a wood fire, or five cents an hour. Benzine, being a light oil, is pressed through the burning orifice by giving it a head of about two feet, while the heat from burning converts it constantly into gas as fast as used. This lamp, we understand, is used in hydraulic mining at Moorestown, Bidwell's Bar, and other places.

ONE of Mr. Paul's new dry amalgamation barrels, made of iron, was shipped from the Miner's Foundry, on Thursday last, for Mr. Chapin's mill at Silver City. It measures 4 feet in length, 38 inches in diameter, and will work 1,000 pounds. Underneath the cylinder is a common wood fire-place, which, with the cylinder, is inclosed in sheet iron; and at the top there is a common stove-pipe. The apparatus is very simple, and cheap. Mr. Chapin states that he has found this process to work his ores for from $14 to $18 less than by the common pan process.

Phillips' Improved Rock Drilling Machine.

The object of the invention herewith illustrated is to provide an improvement in the machine drill, for drilling rocks, for hlnsting purposes, etc. The machine consists of a cylinder and piston for employing either steam or compressed air for actuating the drill. The improvements consist in certain mechanical devices for controlling and regulating the operation of the drill, which we will endeavor to make intelligible by reference to the accompanying engraving.

The machine, as represented, is intended to work downward. The four lateral arms terminate in screw-jacks, as shown at D, for the purpose of fixing the machine firmly to the walls of a tunnel or to any suitable framework of wood, according to the work required.



PHILLIPS' IMPROVED ROCK DRILLING MACHINE.

The drill and drill-holder are seen at G and S, while the set-screw, which holds the drill firmly in place, is seen on the drill-holder, but not lettered. The cylinder A is so adjusted by finished contact with its supports and properly arranged feed-screws, and other mechanism not shown, as to slide forward with the progress of the drill in its work. This feed motion is maintained through the cog-wheels supported between the two plates N and I, and the shaft shown at the right of the engraving, between I and U. The piston-rod F, of the piston E, is hollow, and incloses the reduced prolongation of the ratchet-rod M, which latter fits steam tight, in the stuffing box Q. The object of this ratchet-rod is to rotate slowly the drill G, whereby the edge of the drill is presented to its work in a different radial direction from the preceding one, at each successive stroke.

The drill, piston-rod, piston and ratchet-rod, all rotate together. This motion is effected by the ratchet-pinion O, actuated by the spring and pawl C, and all operated by means which will become apparent from the following:

H is a slide-bar which has a vertical motion, properly guided, by means not shown. This motion is imparted by bringing the lower end so as to fit loosely in the groove of the drill-holder S, in such a manner that the rod must move up and down with every stroke of the drill. The object of this motion is primarily to operate the valve J, which admits the air or steam for actuating the piston E. This is accomplished by means of the lever V, which works in easy contact with the ratchet-rod M. This lever, which also bears the pawl and ratchet-pinion, already mentioned, is moreover caused to vibrate backward and forward by means of a diagonal slot, partially shown near the top of the slide-bar H. The ratchet-wheel is held from lateral motion on the rod M, by a set-screw, the point of which enters a longitudinal slot in the rod. By this slot and set-screw the ratchet is permitted to move along on the rod M, with the lever V, while the cylinder is gradually moved forward, as it is, in following up the progress of the drill.

The end of the lever V, which is opposite to the end b, is formed with a slotted head, not distinctly shown, but running diagonally upwards, and in which slot a stud-pin or projection from the blocks e is made to work—the said block e being firmly clamped to the guide-rod L by the set-screw d. By this arrangement, a modification of the movement of the ratchet-rod M is conveyed to the guide-rod L, just sufficient to work the valve J.

K is the steam induction pipe; the eduction pipe is not shown. When the cylinder has descended to the length of its limit, it is again elevated to its first position by means of a crank readily adjustable on the top of the set-screw, which is a prolongation (not shown) of the pinion-rod between I and U, upon the right of the engraving.

This device was patented by George Phillips, December 1, 1868. The inventor proposes for ordinary tunnel work a machine weighing about seventy-five pounds, having a cylinder six inches in diameter, and the piston eight to ten inches stroke. Its length would be three feet, without the drill. It is so adjustable as to be calculated to drill in any direction, for which purpose it will be observed that the lateral arms are made shorter upon one side than on the other. The inventor says from 300 to 500 strokes can be made per minute, and estimates that one machine will do the work of twenty men. Mr. Phillips is a working miner of long experience in Europe and the Eastern States, and is now engaged at Alleghany, Sierra County, California, where parties can address him. He is desirous of disposing of the whole or a part of his invention to some one who has the means to introduce it into use, and thereby secure a fortune and benefit humanity. He guarantees to satisfy any party who will interest themselves in the matter, of the entire practicability of his invention.

RHIGOLENE.—Considerable quantities of this highly volatile liquid are now being manufactured for commercial uses. It is the lightest of all known liquids, and in many respects is a very remarkable substance. Its specific gravity is 0.625. It is so volatile that a small portion poured upon the warm palm of the hand produces a hissing sound, very similar to pouring water upon hot iron; it almost instantly vanishes into vapor. It has so little odor that an ounce of it evaporated in a close room will scarcely be noticed. It is manufactured in Boston, and put up in packages of from one pound to five gallons each.

RECEIVED.—Vick's Illustrated Catalogue of Seeds for 1869 (James Vick, Rochester, N. Y.) It contains accurate description and illustrations of the leading floral treasures of the world, with plain and full directions for sowing seed, and transplanting and cultivating; also a similar list of choice seeds for the vegetable garden. Furnished by the publisher for ten cents in currency or postage stamps.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

Written for the Mining and Scientific Press.

Origin of the Washoe Pan Process.

"Let justice be done though the heavens fall."

This is an admirable motto, and if others would observe it as they desire to have folks think they do, I would have more justice extended me. In your issue of 18th, "J. S." uses the above motto, but endeavors to put forth as incorrect, my assertion respecting the Washoe Pan Process, and would have the reader believe I was detracting from Captain Hatch that which was his due, and appropriating it to myself.

The writer evidently is less acquainted with Captain Hatch, and certainly less with the early history of Nevada, than your humble servant. He says, "what is known as the Washoe Pan Process, was first introduced by Captain Hatch, at Col. French's mill in Silver City, *about* the same time as that above,"—meaning my introduction. Now the facts of the case are, I built two mills, one a 24-stamp (and the first for working the silver ores in the State), and a 48-stamp one—as I was using Patio chemicals—before ever Captain Hatch came to Nevada. As to the pans in French's mill, they were in previous to Mr. Hatch going there. What Captain Hatch did try to introduce, was the use of dissolved sulpbate of copper and salt, as a "process," and he tried to sell the same to me.

Not knowing at the time what his process was, I invited him up to the Gold Hill mill to *work a pan* against me, which he did. We cleaned up, and without waiting to see fully the result, but knowing by the hulk of amalgam that I had beat him, he remarked that "I did not want his process." He knew what I was using—salt and copper. Captain Hatch was a fine worker of metals, and I would he the last one to appropriate to myself anything due to him. He, however, *never worked iron pans in Mexico, or the Washoe Pan Process*, as I had many talks with him on the subject. As to the iron pans in use in Europe and South America being the same as the Washoe pan, there has been no nearer approximation than the Hungarian bowl or Bartola pan, which I have excepted, provided they can be called pans. In South America and Mexico, a copper pan was brought out about 200 years ago; but even that was not the Washoe system.

If the gentleman had read my article, in order to "do justice tho' the heavens fall," he would not try to make it appear that I undertook to claim the origin of pans, or the use of pans, as I knew too well that pans were used in California, and yet not "as thick as blackberries." It was "up hill" work to introduce them in gold milling, when I introduced them in the silver mines.

If J. S. refers to the use of copper and salt as the Washoe process that was known all over the mining world over 200 years before Captain Hatch was born, I would ask J. S. what he calls the Washoe Pan Process?

At the same time that I hold a very great regard for the many highly educated foreign gentlemen engaged in mining pursuits on this coast, yet this thing of everything being either French, English, German, or some other country beside our own, or that we are not capable of originating anything new or valuable to the mining interest, "is about played out."

ALMARIN B. PAUL.

COCOONERY EXPERIENCE.—A lady in Anaheim, who had raised a fine lot of cocoons from her own feeding, was somewhat surprised, a few days since, to find on the under side of each, a very fine perforation, through which the small red ant had entered and devoured the silkworm. Not one of about a thousand cocoons had escaped the little intruders. This experience may be of value to some of our silkworm growers.

Means of Promoting the Production of the Precious Metals.

ENCOURAGEMENT OF VEIN MINING.

[We find the following, under the above head, in Professor Blake's Report on the Precious Metals at the Paris Exposition:]

In view of the continued decrease in the production of gold from placer deposits, it becomes important to encourage and promote the extraction of gold from veins in every possible way. There are other great reasons for encouraging vein mining enterprises. They are permanent in their nature, and promote the general development and prosperity of the country by attracting a fixed population, composed of artisans, agriculturists, and others. In California, thriving towns and villages spring up around the quartz mines in the interior, where, without the mines, all would be comparative desolation. The superficial placers in California and elsewhere are soon worked out and deserted, and the placer miners are constantly roving about without fixed homes or property. It is somewhat different in regard to the deep placers and cement mines; they partake of the nature of permanent vein mines, yet are not so attractive as centres of population.

It is an extremely encouraging fact that vein mining in California and Australia is now, or at least was in 1866, more successful than at any former period. The number of successful vein-mining enterprises is increasing. In Australia, this branch of mining appears to have been extraordinarily developed, and to be followed to relatively greater extent than in California.

* * * * * * *

GOVERNMENT PROTECTION REQUIRED.

It is a primary duty of the government having a public domain of such great extent and wonderful richness to foster and protect mining enterprises, not only in order to promote the production of gold, silver, and ordinary metals, but as one of the best means of stimulating immigration, settlement, and the march of industry in all directions. Mining considered in its importance to the wealth of the country, is an interest which cannot be neglected in legislation without serious loss.

The veins of gold, silver, and other metals should be regarded as the heritage of the people, and while these veins should be left free to all who choose to work them, they should not be completely abandoned to hap-hazard destructive development. The government should exert over them an intelligent protecting and directing care, and adopt such laws and regulations as will best promote permanent successful mining, preventing waste, the loss of precious metals by careless and ignorant working, the complication and conflict of titles, and the holding of claims for merely speculative purposes, without any efforts being made to open and work them.

Nearly all the great exhibitions of mineral products in the Exposition illustrated the value of government direction and regulation of mining industry. The most satisfactory and perfect exhibitions were those made under the direction of government mining engineers. The collections were methodical and complete exhibits of the mineral resources of each country, and they were accompanied by maps and sections of mines in detail and by statistical publications prepared with the greatest care every year. The relations of position of the veins of ores and of beds of coal to the geological formations were shown by geological maps and sections and by models on a large scale, showing not only the inequalities of the surface of great districts of country, but the position of the coal beds below the surface, and the location of every mine.

By fostering mining enterprises and by thoroughly educating and training men to conduct them, many countries, whose resources in the precious and other metals are comparatively meagre, are successful producers of gold and silver from ores and veins such as in the United States would not be regarded as worth the labor of working. Every portion of an ore is utilized, and valuable products are obtained where without science and skill they would be wasted in residues. It has been shown in these pages that gold ores produced upon the slopes of the Rocky Mountains and found to be "rebellious"—difficult to work—have been transported with profit, in a partly worked state, over the immense plains and across the whole breadth of the States east of the Mississippi, and then shipped across the Atlantic, to be successfully worked at Swansea, in Wales, simply for the want of a proper development of metallurgical science and industry in the United States. We must not lose sight of the fact that we not only send some of our ores abroad to be worked, but that many of our young men are also sent abroad to obtain that thorough education and training in government institutions which they are unable to obtain at home.

IMPORTANCE OF A NATIONAL MINING COLLEGE.

The establishment of a national college would be one of the best or most effective means of securing the proper working of the mines and of promoting permanent and profitable mining enterprises, and thus tend to maintain a large production of the precious metals, especially from veins and deep placers, or whenever capital and skill is required. The dissemination of accurate information regarding mineral veins and their contents, and upon the various methods for extracting and reducing the ores economically, would prevent much of the present ill-directed energy and expenditure of time and money, often upon localities where there is little room to hope for success. Such institutions are absolutely necessary to gather the teachings of experience and to place them in a form available to the many persons now interested and yet to be engaged in mining, and to the prospectors who are penetrating our unequaled mineral regions in all directions and are constantly discovering new sources of wealth. The country cannot do too much to sustain and encourage the men who are thus prospecting the unexplored and almost inaccessible portions of the public domain, and to whom we are chiefly indebted for the discoveries which have been made. We should not leave them to labor unaided, but should follow them by organized explorations, by careful examinations of the veins and mineral deposits which they discover, and by the speedy publication of reliable and full information upon them. One of the prominent features of a school of mines should be practical laboratories and metallurgical works upon a moderate scale, in which the students could take practical lessons in the working of ores by all the known and approved methods, including the mechanical preparation of ores, their concentration by water and by fire in furnaces, or their reduction in pans or otherwise. These laboratories would be miniature metallurgical establishments, where ores of all kinds, "docile" or "rebellious," would be received, experimented upon, and treated by the best methods, while the theory of the processes would be fully given and the chemical reactions explained, so that the students would obtain a thorough knowledge and comprehension of the principles involved in the chemical treatment of ores and be prepared to adapt themselves to other circumstances in which they might be placed when called upon to treat ores in regions remote from supplies. Such a government mining school would not only directly promote mining industry, but it would greatly increase the amount of exact scientific knowledge among the people, and thus promote, in the most effectual manner, general scientific education, the results of which would be felt in all our industrial pursuits.

It is gratifying to all the friends of mining industry to know that the establishment of such an institution is already engaging the attention of Congress. Foremost among its advocates is Senator Stewart, of Nevada, who in 1867 introduced and ably supported a bill for the organization of a National School of Mines.

CORPS OF MINING ENGINEERS SUGGESTED.

In connection with, and as partly growing out of, such a mining college, the government should organize and make provision for a corps of mining engineers, to be filled subsequently by the graduates of the college; the members of the corps to have rank and promotion corresponding with the grades of the corps of military engineers.

Such a body of thoroughly educated men should be charged with the duty of exploration of our mineral regions; with the collection of information upon them; with the preparation of reports upon mineral deposits, and memoirs upon mining and metallurgy, all of which would form the basis for publications at regular intervals, giving to the people such information as would best promote their interests and the national prosperity.

Engineers, so educated and sustained by the government, would be animated by laudable ambition and enthusiasm, and would be strengthened by an *esprit de corps* tending to their moral and æsthetic elevation. They would be in a position to give independent and reliable opinions and advice upon the value of our mineral deposits and the best methods of developing them.

Such an organization would open a new and inviting field to our young and enterprizing men, the graduates of schools of science, and others, who seek a career in the fields of science.

In view of the recognized necessity of thorough technical education to the highest industrial and commercial development of a nation, the organization of a national corps of mining engineers has an increased importance; for, as already argued in regard to the influence of a mining college, it would have an immense influence in promoting general scientific education, thereby causing an exact knowledge of the fundamental laws of nature to pervade the people, and giving them a greater power over our vast material resources.

Another great means of increasing the production of the precious metals is the construction of railways across the country, by which prospectors and supplies can be carried into the heart of what are now comparatively unexplored and unknown mineral regions; and by which machinery can be delivered at moderate cost to extensive regions already known, but remaining comparatively dormant for the want of rapid and cheap communication with the centers of supply both east and west.

ABRASIVE WEAR OF METALLIC CURRENCY.

Few, we presume, are aware of the extent of the decrease in the world's stock of precious metals, by the abrasion consequent upon the passing of coin from hand to hand, in ordinary traffic. According to a carefully prepared report of an examination instituted by the British Government on or about the year 1800, it was shown that the abrasion in an interval of ten years amounted, in crown pieces, to 3.28 per cent.; in half crown pieces, to 8.8 per cent.; in shillings, to 24.29 per cent., and in sixpences, to 38.22 per cent. It will be observed that the loss was greater in small than in large coins; owing, of course, to the increased amount of handling to which the former were subjected. The large aggregate loss of the world's stock of precious metals from the source alluded to, becomes strikingly apparent from the above exhibit. Was it not from the fact that the abrasion in the larger pieces is greatly modified by the employment of warrants in delivering orders, or some system of exchange, which allows such coin to remain almost always in bank vaults, the loss to the world from this source would be a most serious one. We are not aware that any similar investigation has been made by any other than the British Government. The question is one, however, which certainly deserves serious consideration, especially in a hard money country like California, where the coin is chiefly gold, a metal which suffers much more from abrasion than silver.

THE WISDOM OF PROVIDENCE.—The admirable fitness of things in nature, generally, and the wise adjustment of substances with regard to their usefulness, and their sanitary influences upon man and animals, is a matter which is often strikingly apparent to the most careless mind, and one which can never be overlooked by the more observant. The almost universal juxtaposition of coal and iron is a matter often referred to. The peculiarities of the oxides of the various metals and metalloids, which comprise so large a proportion of the earth's surface, is wonderful to consider. If the oxides of copper and lead were anything like as widely diffused as that of iron, the result would be most disastrous to animal life. The refreshing element of water would, in such a case, become a deadly poison. How wisely has it been ordered that the oxide of iron, the most useful and widely diffused of all metals, is almost the only harmless one! If carbonate of baryta had been formed as abundantly as carbonate of lime, animated life, as now constituted, could not have gained a footbold on the earth. Facts of this kind might be extended almost indefinitely; but there is no necessity for dwelling upon them. Yet it is proper that we should now and then reflect for a moment, to the end that the mind may be elevated from finite things to the great Infinite, who has so manifestly ordered all things well.

Mechanical.

HEATON AGAIN.—*Engineering*, which has from the first spoken disparagingly of the Heaton steel process, always giving good and sufficient reasons, apparently, for so doing, has a capital chance to laugh at that inventor in illustrating and describing a "wonderful furnace" of his devising. This furnace has been mysteriously talked about of late, and excited great curiosity among metallurgists; but has now, by the publication of the patent specification, become accessible to the public, and a subject for criticism. Nothing "hogus" in science or the mechanic arts escapes the critical eye of the journal aforesaid; and here is a chance, which, presenting itself so soon after the lively newspaper controversy about the Heaton steel, was not likely to be overlooked. A careful copy of the patent drawing is given to illustrate the invention (!); and *Engineering* finds an ample field for fun-making, in describing it, and quietly admiring the accommodating manner in which, for Mr. Heaton's sake, the gases disregard all the natural laws ordinarily in force. At last, "by way of further elucidation," Mr. Heaton's own explanation is appended. This caps the climax; for it is "confusion worse confounded." Unless *Engineering* is for once wofully at fault, Mr. Heaton is a mere pretender.

NEW PROCESS OF PREPARING PAINTS.—The French Government has ordered a commission to examine and report upon the following process for preparing paints, based upon the fact that they are chemical compounds, and not simply mechanical mixtures. When the pigment is merely ground and mixed with oil in the ordinary manner, particles will remain in spite of every care, which will cause the paint to blister when laid. But by this plan, the pigment is mixed with both water and oil. The water aids in its minute division, and by virtue of the principle of elective affinity it leaves the water and unites itself with the oil, leaving the water upon the surface. The latter is then drawn off, and the paint consolidated and pressed into a cake for use.

WATCH MAKING BY MACHINERY.—We clip a few paragraphs from the description of the Elgin watch factory, by a correspondent of the N. Y. *Evening Post*:

"Watch wheels are struck out from thin plates of brass or steel with a punch which leaves their edges round and smooth. Then a dozen in a pile, held together by an upright standard, which passes through the middle of each, are attacked by a furious little circular saw, which whizzes down the side of the pile, and then up again, cutting one tooth in each wheel as it passes. * * An atom of a circular saw, no larger than a pearl shirt button, cuts up garnets and rubies into cubes, each of which is turned in a lathe with a diamond chisel. Then a revolving microscopic drill bores the hole. This is polished by a steel wire charged with diamond dust, which revolves one way while the jewel whirls the other. The two combined make 15,000 revolutions a minute. * * Here are delicate sapphire knives, used for cutting brass, because they leave a polished surface. Here are pinions of axles barely visible to the naked eye, which the workman only handles with pincers and examines through a magnifying glass. They are made of wire,—fed to a hungry little wolf with muscles of iron and teeth of steel, which ravenously bites them off at proper lengths,—and turned in ridiculously tiny lathes. * * The Loudon *Illustrated News* insists that watches cannot be made successfully by machinery. The best answer lies in the fact that a hundred thousand watches are made annually in the United States. They are rapidly driving all grades of foreign watches from our markets. At the beginning of this century there were few watches or clocks in America, and those were imported. The enormous "bull's eye" watch, or the wooden clock six or seven feet high, resembling a coffin standing on end, was a rare luxury. Now we supply the whole world with clocks, even to the Island of the Sea and the farthest Indies. Ultimately we shall supply it with watches. In the long run, European hand labor has no sort of chance against Yankee machinery, directed by Yankee brains."

RELATION OF PISTON AND CRANK.—The following is from Mr. Porter's new work on the indicator: "The motion of the crank is supposed to be uniform, passing through equal arcs in equal times; the motion of the piston, on the contrary, is, first, scarcely two-thirds that of the crank, being to the latter in the proportion of 1: 1.5708, and, second, it changes at every point of the stroke. At the instant that the crank is on the dead center the piston has no motion. Then its motion, at first infinitely slow, becomes gradually accelerated, until the velocities of the piston and the crank are equal, when it begins to be retarded, the ratio of retardation increasing until on the opposite center its motion has ceased. But whether the revolution of the crank is uniform or not—as in fact it can never be absolutely, since then the fly-wheel would cease to act as a regulator, and might be dispensed with—the motion of the piston has a fixed relation to it, being equal (if we disregard for the present the effect of the angular vibration of the connecting-rod) to the versed sine of the angle which the crank makes with the center line."

SURFACE AND JET CONDENSERS.—"With jet condensers only a given amount of water is required for condensation, and to give more only needlessly lowers the temperature of the feed-water, besides throwing additional work upon the air-pump, without obtaining any real improvement in the vacuum. With a surface condenser a moderate quantity of cooling water outside the tubes requires a relatively large amount of tubular surface. Some engineers maintain that it requires as much cooling surface to get the heat out of the steam as it required of heating surface to get it in. The usual proportion of the former to the latter is about 2 to 3, or 3 to 4. A pair of engines working to about 2,000 indicated horse-power would, in moderately fair practice, require every hour the quantity of steam that would be evaporated from 900 cubic feet of water, or 15 cubic feet per minute. To condense this by injection, with water at about 60°, would require 350 cubic feet, or ten tons of water per minute. This water has to be lifted out again to the sea level, perhaps 10 feet or 15 feet, the work thus amounting to eight or ten horse-power. This amount of water pumped through a surface condenser would not require much power. But in surface condensation much more water is required and much more power is consumed. The power necessary for surface condensation may be very materially reduced by utilizing the momentum of the flow from the sea, which is entirely extinguished in the jet condenser by the rose of the injection-pipe."—*American Artisan.*

NEW PLAN FOR TESTING RAILS.—Instead of the established method for testing steel rails by dropping a ton weight upon them from a hight of eighteen feet, a 75-pound weight dropping four feet, is to be used by the Philadelphia and Baltimore Railway Company. It is now considered that to subject the rail to some thousands of blows from this comparatively light hammer, is a nearer approach to the treatment which it receives in actual service, than the old plan. The weight is so arranged as to be caught on the recoil by a pawl, so as to strike no short blows.

NEW METHOD OF TESTING LARGE PIPES. The usual practice has been to close the ends by caps and then force in water until the pipe was completely filled; but with large pipes, very strong caps were required, and there was a waste of time and of water,—thus largely increasing the expense. The new plan is simply to place within the pipe a core, of nearly as great diameter as the pipe itself, and then force in water enough merely to fill the space between the two.

NEW ALLOY FOR COIN.—The French mint authorities recommend an alloy composed of 835 parts of silver to 93 of copper and 72 of zinc for coin and silverware,—as being more homogeneous than the one at present in use, and not liable to be turned black by the sulphureted hydrogen or green by acide.

STEEL "LAID" ON CAST IRON.—Our best tailors' shears, household scissors, and smith's anvils are made of cast iron and steel. The molten iron is poured upon the steel in a mold, until the steel is brought to the proper heat,—that of welding or fusion, the surplus metal being allowed to escape—when the union is effected and the iron fills the mold.—*Scientific American.*

Scientific Miscellany.

Glycogen.

This substance, the "sugar-generator,"—as its name implies,—in the animal organism, stands between starch and dextrine, in its properties. Bernard prepared it in 1857, from the livers of animals fed entirely upon meat. The process is in brief as follows: The liver is cut into fine shreds and thrown into boiling water to coagulate the ferment,—then bruised, mixed with a little water, boiled and strained; a precipitate is then obtained with alcohol, which is filtered and dried. It is afterwards purified by divers re-precipitations and re-filtrations, until it resembles hydrated starch, in its appearance and its properties generally. It is changed into dextrine and then into sugar, by the same agents which change starch into those substances.

Bernard concluded from his experiments that the formation of sugar in animals should be divided into two parts,—one entirely vital, the other entirely chemical;—the first consisting in the production of the glycogenic matter in the liver,—the second in the transformation of it into sugar by means of a ferment. We find in *Silliman's Journal* for January, under the head "Notices of papers in Physiological Chemistry," an abstract of Bernard's paper on the subject, by Dr. George F. Barker, from which we quote:

"This ferment was at first supposed to belong to the liver, but finding that blood effected the change in a marked degree, Bernard referred it to this fluid. During digestion, the circulation is much more active, and the transformation of the glycogenic substance is correspondingly great; in torpid animals like frogs, on the other hand, where the circulation is slow, the sugar disappears from the liver, while the glycogenic substance remains. If these animals be warmed, however, the sugar reappears, and so on alternately. The condition of the nervous system also affects the transformation of the glycogenic matter. When the spinal cord is cut or wounded near the neck, below the origin of the phrenic nerves, the activity of the hepatic circulation is diminished, and after four or five hours there is no trace of sugar in the liver, though glycogenic matter is found there. On wounding the cerebro-spinal axis near the fourth ventricle, the phenomena produced are precisely the reverse; the abdominal circulation is accelerated, and the glycogenic matter is so largely transformed that it appears in the urine. The paper closes by comparing the liver to a seed; first, a vital action stores up starch in it; then a chemical one changes this starch into sugar."

Subsequent experiments confirmed these conclusions, and established two points; first, that the formation of sugar in the liver was entirely independent of any external supply of dextrine or sugar; and second, that it is necessary that the animal economy should be in full vigor, in order that it be so formed. The livers of hospital patients, and of sick horses, were found to contain no sugar;—those of executed criminals and of healthy animals, were necessary for the experiments in which it was detected. The formation of starch in the flesh-eating animals is from food entirely free from carbohydrates, and on the other hand in the herbivora from food rich in those substances; while it ceases to take place in a diseased individual of either class.

In 1858 Dr. Pavy asserted, upon the strength of more than sixty observations, that the change into sugar was a *post-mortem* change; and that "the condition of the blood after death could not be taken as an indication of its state in life." He found that the injection of potassic hydrate into the liver, instantly after death, prevented the formation of sugar. The subjection of the liver to a low temperature by instantly throwing it into a freezing mixture, had the same effect. Dr. Pavy objects to the name "glycogenic matter," of Bernard, as incorrect; and proposes "hepatine" instead. He found that if a sufficient quantity of this substance is artificially injected into the blood, the urine becomes diabetic.

In 1859 Berthelot and De Luca determined by experimental research the nature of the sugar produced by the transformation of this substance. They found it to be identical with the ordinary glucose of grapes and the sugar of diabetes.

BINOCULAR VISION.—Professor Le Conte, of South Carolina, in an article in *Silliman's Journal* for January, upon the above named subject, describes in detail certain interesting experiments, from which he concludes that, contrary to the heretofore universally accepted doctrine among physiologists, the axial and focal adjustments of the eye *can* be dissociated at will, and that with perfect ease, after suitable practice. He succeeded in so educating his own eyes that he could bring out successively four distinct images of a figure upon the carpet, one above the other and in perfect proportion to each other, according to the distance. The nearest of the four images was but seven inches from his eyes.

Professor Le Conte thinks that upon this principle of "disassociation of consensual adjustments" may be explained the fact that many persons experience difficulty in seeing stereoscopic pictures distinctly, even when the two pictures are brought into perfect coincidence. He says: "We judge of distance, as is well known, by the axial adjustment. If then the two pictures are so taken that, in order to bring them together, the visual lines must meet at a certain distance, say fifty yards, then the picture will be seen at that distance, and of course very much enlarged. But in order to see the picture clearly, the rays must come to the eye as if they diverged from the same distance; for the eyes are adjusted for that distance. To fulfil this condition lenses are always used; but it is obvious that a given pair of lenses are suitable for one distance only. For all other distances, or degrees of optic convergence, there must be some degree of dissociation of the two adjustments, and this is both difficult and fatiguing to most persons."

WHAT THE NINETEENTH CENTURY IS TO BRING FORTH IN SCIENCE.—The following passage is from the opening address of Dr. J. A. Meigs at the commencement of the session for the year at the Jefferson Medical School: "The great advance of our knowledge in histological and morphological development since the beginning of the present century, coupled with the new doctrine of the forces, has given rise to the growing conviction in the minds of physiologists that we are upon the eve of some great discovery in Biology, which will prove, in the hands of future physiologists, as powerful a means of research as has already been in those of the chemist, the law announced by Kirchoff in 1859, relative to spectral analysis. It may be that this discovery is to be reserved as the crowning glory of the coming century."

THE ECHINODERMS.—A Viviparous Echinoid from the Chinese seas, is described by Dr. Edward Gruhe. This completes the parallel,—says the London *Quarterly Journal of Science*,—between the Echinoderms and the worms:

"We now know, in both groups, of animals laying eggs which produce embryos developing directly into the adult form; of others which present strange larval conditions which either become completely altered, so as to form the adults, or bud off from their interiors a small mass of living tissue which becomes the adult, leaving the larva to perish. We know, in both groups, of hermaphrodites and of dioecious species, and now we have added a viviparous form of Echinoderm, such as was previously observed in some Nemertian worms. We have yet to discover among the Echinoderms the various modifications of asexual reproduction, by pseudova, fissiou, or true partheuogenesis."

THE CALORIFIC SPECTRUM.—M. Desains finds that the delicate bands of the spectrum, having the same refrangibility, but proceeding from different sources, are unequally absorbed by the same medium.

SPECTRUM OF THE AUGUST METEORS.—Mr. A. S. Herschel says the spectrum of the August meteors was like that of a spirit lamp flame supplied with moistened salt.

White Pine Summary.

During the week the prevailing sentiment with regard to White Pine has been less excited than in the week preceding, the tendency being to accept White Pine, its excitements, and the important attending and resulting developments of the interior, as a fact of the times which must of necessity be got used to, as we get used to war, small pox, or any other great or small event that may, or can happen.

THE WEATHER.

The weather after the 13th inst. became stormy again, and the four or five thousand people who left this State during the mild three weeks preceding that date, undoubtedly found occasion to appreciate the quality of their California blankets. Once more frozen feet, fingers, noses and ears have became the order of the day. The streets of Treasure City, previously dry except behind houses, are again clothed in white, the winds bluster, the prospectors shoulder their tools and return to the ravines, cabins and fires, or to the shades of the hurdy gurdy. "I think," say the wise ones while it snows and blows, "that we shall see some severe weather yet." For five days the silver pilgrims were cooped up to their own excitement-breeding company, enveloped in the Pogonip; and many letter writers confess somewhat dolefully that matters appeared dull, an anxious feeling of relapse probably from a consciously artificial excitement. On the road to White Pine, from the east especially, there has been much suffering. Something of the character of the experiences detailed in our exchanges may be obtained from Charlie Manley's letter from "Hole in the Rock," Idaho, copied in the Montana *Post* of March 5th: He says:

"The worthy Superintendent for Wells, Fargo & Co., Mr. Taylor, passed here yesterday. He suffered dreadfully from Pleasant Valley, holding the buffalo robes over a lady and little girl who would have frozen to death only for him. I do not think he could have stood it half an hour longer. He froze one foot and suffered more than I would for Wells-Fargo's whole outfit. We would have had it rough enough but for his kindness in letting us have wood here. We noticed a man half a mile from here last night leading his horse, and saw by the way he traveled all was not right. So one of the boys and myself went to him. When we reached the spot he could not speak. We throwed him around miscellaneously and got him to the station as quickly as possible. His hands and feet were both frozen. He was insensible with cold, but we kept his hands and feet in water a half hour when he came to. He says his game would have been up, but for us, as he could never have made the station alone."

CONTRADICTORY ACCOUNTS.

From Tressure City the weather reports appear to accord with the feelings of the writers. "P," in the *Herald*, writes that it is not colder than at Virginia City, and that the country is a splendid one to "make a raise" in. The *Bulletin* correspondent of the 17th says just then it was fearfully cold, and speaks of hail driving, sleet falling at intervals, the streets being a bed of slush knee deep, the snow four to ten feet deep in the mountians; so that prospecting would not be possible before May, and in some localities not before June. He predicts two months more of extremely stormy weather, and says he has spent ten years beyond the Sierra, and three winters in that region. These facts, however, apply only to those who do not own, or expect speedily to own any chloride pockets. "P," above refered to, could distinctly see the stars through the rifts of the Pogonip. A similar discrepancy exists on the subject of pneumonia and small-pox. "Chloride," of the *Enterprise*, says pneumonia is a bugbear; is rare, and where it exists does so more in imagination than in reality; the unusual mildness of the winter at White Pine being the cause! Small-pox, according to "Chloride," has not got up the hill yet. The *Bulletin* correspondent, on the other band, sees coffins carried through the streets every day, and says the report is that the unfortunate pilgrims died of small-pox; while pneumonia, he says, is common, and is generally fatal. Sickness, he thinks, will prevail to a considerable extent for several months, until the exposure resulting from bad housing will cease.

RATHER COMPREHENSIVE.

"P" says: "No mining district ever discovered has created the attention which this has received. I am shown letters daily from all parts of the globe anxiously enquiring about the condition and the future prospects of White Pine." He expresses himself relieved to think that the peculiarities of the mineral deposits of Treasure Hill will discomfit that unmitigated class of humbugs, or worse, known as mining experts, and as a lover of genuine science rejoices.

ROAD TO WHITE PINE.

The White Pine *News*, of the 13th, says the road from Elko was in an excellent condition, teams going over it heavily laden, and experiencing no difficulty, the present traveled road being by Denver's toll road, which crosses a low range of hills bordering the valley of the Humholdt, and after about 15 miles enters Huntington valley at Shepherd's station, following the same due southward 100 miles to a cañon in the White Pine mountains, whence the road continues at a rapid rise for eight miles to Treasure City. Generally the road keeps at the foot of the Diamond range of mountains, which forms the western boundary of the valley. Although this is a mountainous country the mountains are so broken and cut by great chasms that easy passes are found leading east and west, while the great valleys running north and south offer unexampled facilities for the construction of roads of the very best character.

The *Bulletin* correspondent of the 18th, however, says, of the Elko road, that it is now very bad in places, and will be almost impassable in a short time, with very little prospect of its improving for the next two months. The stages, which a week ago came through in less than 20 hours, and latterly in 24 hours, now take 34, and will soon require 40 hours, and perhaps more, to get through.

At Virginia, and other places beyond the Sierra, pack and saddle animals are being advertised for sale.

The *Reveille*, of the 19th, is informed that the eastward bound train went on from Argenta with "about 200 enterprising souls from California," and that "there were thirty petticoats in the number."

THE PROSPECTS.

The *Enterprise* of the 20th states that a few persons are still leaving almost daily for White Pine, but there is no particular excitement in regard to that country at present. Most persons say that it is now too late to go out there to locate mines and town lots, and if the mines are all right, and prove permanent, it will be as well to go six months hence as to rush out there at the present time.

The correspondent of that paper on the same date writes that miners are in great demand, and any number would be able to get employment at $5 a day, the demand increasing in proportion to the number of mills that are being put up. But the trouble was that all who knew how to set off a blast were off prospecting for themselves, and could not be had. One fortunate possessor of this desirable knowledge at White Pine was working the night shift by preference, in order to have a chance to prospect during the day. On the same subject the Grass Valley *Union* of the 20th publishes an extract from a letter from White Pine, in which the writer says: "My advice to all in Grass Valley is to remain there, as it costs considerable to live here, and for workingmen there is very little to do; and unless they have cabins to live in, it will cost them every cent they receive to live." "M," writing to the Amador *Ledger*, says miners and carpenters will do well. As all who go to White Pine will be either miners or carpenters to the extent required there,—after taking a few lessons from "P," perhaps,—there is hope that the gloomy and rosy correspondents will yet, in some way, strike an average on the prospects, without the necessity of coming to any unhappy catastrophe.

LESS BRILLIANT VIEWS.

Amongst our clippings, those giving gloomy colorings to White Pine this week, outnumber every other subdivision of the subject. Part of this is owing undoubtedly to the late storms in Nevada, and part to a jealousy of the new field, from the injury it does in drawing off labor and capital from other first-class mining districts. But mining on this coast is like sea-faring, a roving life; and the adventurers are on the move to and fro constantly, between centers that command the power to attract them. The general opinion is gaining ground that the number of rich mines at White Pine is limited. It would be strange indeed, if the wild fancies of excited locators should all be realized, since silver does not concentrate itself naturally in the way that gold does, in convenient surface deposits; and though the metal actually exists pretty plentifully almost everywhere, the circumstance of its being mineralized and "rebellious" renders it to a greater extent unavailable where found.

A correspondent quoted in the Idaho *Tidal Wave*, of March 9th—Louis Gazelle—writes thus to a friend in Silver City, I. T.: "To come right down to the facts, Tom, this thing is not what it is cracked up to be, mind what I say, and I have taken pains to find out for myself. It is true, if a man is on the rustle he can make money here. Anything in the shape of a location will sell for cash down; money is plenty here, but my advice to the boys is to stay where they are; there is no use talking, there is more wild-cat business done here than I ever saw in all my life. Peter and I are rushing around locating, and Jim and George are working for wages to keep us in grub, for to tell you the truth, of the of the $2,000 we brought here a month ago, there is not a cent in the whole family. We think we have some good locations, and will pitch in next week to open them up."

The *Enterprise*, of the 18th, also gives an item which is "Not so Fine." It mentions that a private letter received in that city from White Pine a day or two since, says that unless something more is found than is now known of, crowds of men will be walking barefoot out of that region next fall. The writer says that even now he sees two or three hundred men daily looking in vain for work.

A correspondent of the Amador *Ledger* says a building lot costs from one to eight thousand dollars; mechanics get $8 and laborers $5 per day. "I am paying $4 per day for my living; there is very little building material, consequently but little work to be done. From my view of the matter I think I have come here about five months too late to make a strike."

The Nevada *Transcript*, of the 18th, says: "The truth is, White Pine is already running over with people, and every man who goes there with great expectations of wealth, soon begins to ask why he sees so little work done, and parties of ten and a dozen leaving for other points every day. "Why don't the people stay and dig, if there is so much silver?" The only answer a White Piner can give is, "The Eberhardt is very rich," and this is the sum and substance of all there is of White Pine."

A large amount of space is devoted by correspondents to town lots—about as much as to the actual mining memoranda. One of the most enterprising new towns, on paper, is Pocotillo, a map of which we observe has been posted on the walls and fences in and around San Francisco within a day or two.

THE MINES.

Mazeppa Flat is another of the newly discovered flats reported to be rich. It is far down on the southern slope of Treasure Hill, more than a mile below the Eberhardt. In the Carolina mine, situated there, a twelfth interest is reported just sold to a San Franciscan for $25,000. The Orphan Boy, Comstock and Thunderbolt are hard by, the latter being traceable on the surface for 60 yards, it is said, the surface ore assaying $500 to $2,000.

A great Union Tunneling and Mining enterprise, says the White Pine *News* of the 13th, is on foot, the object of which is to get an inside view of Treasure Hill. The line as laid out is through the entire mountain, near the Hidden Treasure mine, beginning on the east side. "We understand," says the *News*, "that some of the heaviest capitalists of San Francisco have taken hold of the matter, and that they propose showing us what the inside of Treasure Hill is made of. They will hold all isolated deposits of ore found in their area, and three thousand feet in length on all blind ledges discovered by them."

"A Miner" writes deprecatingly of the presumption of those companies which propose to tunnel through Treasure Hill, and claim several thousand feet on every blind ledge they strike. Such a claim, he thinks would take in the property of other people who are sinking on "indications," but have as yet struck no pay ore. He asks which would have the best right to the mines struck, the tunnel or the shaft party; and the *News* replies that the one first striking a ledge, or body of ore, would be the owner.

Babylon is the name of a city once famous, whose name is now of the past.

NEW DISCOVERIES.

The principal characteristic of a mining excitement is that there is a happily refreshing number of "rich strikes." They are heard of a hundred times a day. How insignificant these become after a year's test of time, the deserted mining districts can attest; yet the assays are always entitled to respect. * * A quantity of ore from a newly discovered mine called the Angel ledge, near the Hamilton and Shermantown road, assays $746.32. It is in a locality where no metalliferous veins have heretofore been found. * * Good reports are brought from the Red Jacket and Alexanderine mines. The first is located near the Eberhardt, and is about thirty feet in width. Late developments indicate a mine of great value. The Alexanderine is on the east side of Treasure Hill, near the Pocotillo. * * The California, on Sunnyside Slope, below the Eberhardt, has made big strikes of unexpectedly rich ore. This is owned by the Stanford brothers, having been bought by them about six weeks ago for $50,000. They have stripped the ledge about 400 feet in length westerly from their notice, up to the west extension, and find the walls perfect and the ore very rich. * * The Highland Chief lies a short distance above the Aurora, and the vein runs parallel with it, the course being northwest and southeast. A large opening in the mine shows a width of ledge of about nine feet. Six tons of Chloride ore were lately reduced at the mill, producing $100 per ton. * * Among the discoveries lately made by the prospectors hunting for the Eberhardt extension, is a fine appearing ledge called the Golero. This is a few hundred feet northeast of the workings of the Eberhardt. The present developments show a beautiful and well-defined ledge of spar, carrying but little metal. * * "In an excursion, (says the editor of the *News*, March 20th,) around the southeastern base of Treasure Hill, and down the ravine below the Eberhardt, we were surprised at seeing the number of people sinking shafts, running tunnels and otherwise reaching for the extension of that great vein or mine. One, called the French Co., of which, we understand, Pascal, Duhedat, Bourgoing and other capitalists of San Francisco are leading members, is pushing work with considerable energy." * * Half a dozen cases are reported of fresh strikes on Chloride Flat, which are not especially worth noting, except that in the Canton shaft where a good body of ore has been struck at a depth of 116 feet. This shaft passed through the first stratum of ore at a shallow depth, but the owners, not being satisfied with the prospect, pushed on down and are now working in a mass of chlorides of the finest grade. We are not advised as to the dip and strike of this deposit, if it has any,—whether it is conformable with the limestone, or a mere bunch or pocket inform. * * The greater part of the work done recently, says "Chloride," aside from prospecting, consists in "tracing" the veins so as to be ready for "injunctions" as soon as the Court is established. "The Great Bear of Chloride Flat," as the Bank of California is called, is expected to make things particularly lively. There are a thousand and one locations on Chloride Flat, in a space but little larger than a 40-acre lot. But the claims call for from 800 to 1,000 feet each on the ledges, with all "dips, spurs, angles, offshoots, outcrops, depths, widths, variations, and all the minerals and other valuables therein contained." So says the law, and the oldest location wins. The Bank has bought up nearly all the old titles, and now proposes to "go for them."

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, March 27, 1869.

City Stocks.

In miscellaneous securities there was very little done during the past week in the open market; however, private transactions in legal tender notes and Government bonds have been very considerable. We note a small sale of Spring Valley Water Co. stock at $67 50 per share.

The returns of our local insurance companies to the Internal Revenue Department, for the months of January and February, have been as follows, upon a currency basis of 74 cents on the dollar for the month of January, and 77½ cents for February:

Companies.	January.	February.
Pacific	$81,811	$85,910
Union	42,109	32,956
Fireman's Fund	22 868	20,238
California	9,078	11,726
Merchants' Mutual	24,089	16,568
Occidental	12,532	17,634
Home Mutual	13,733	13,648
People's	17,130	11,340
Total	$224,351	$208 242
Same time in 1868	158,573	173,183
Increase	$63,778	$36,059

The receipts of the city railroads for the months of January and February were as follows:

Companies.	January.	February.
Omnibus	$2,716	$2,241
North Beach & Mission	20,909	19,999
Central	13,974	13,493
Front Street, Mission & Ocean	7,849	7,732
Market Street	9,886	9,497
Folrero & Bay View	2,039	2,121
Total	$76,813	$73,001
Same time in 1868	67,039	69,038
Increase	$9,774	$3,963

Mining Share Market.

There has been a slight improvement in mining stocks during the past week, imparting considerable activity to the market. The short interest continues to attract the attention of some dealers, and sellers' option contracts are made with more freedom, giving strength to the market upon the prospective demand for stock for future delivery. Favorable reports are at hand regarding the developments in several of the Comstock claims, which we have every reason to believe will continue. Other companies are vigorously driving drifts with great confidence as to favorable results within a brief period.

The interest taken in the White Pine mines is increasing from day to day, and the present fine weather has started many in that direction, who intended to remain here some time longer. The incorporation of companies is also on the increase, not a day passing without the entering of a number of certificates. In the Board the transactions of this class of stocks during the past week embraced Aurora Consolidated, Featherstone, Pocotillo, Brodt and Virginia.

Amador (Cal.)—sold at $277 50@290. This mine continues to look remarkably well. The bullion returns for the current month are expected to exceed $60,000....

Chollar-Potosi improved from $162 to $173 50, and closed at $173. During the week ending March 19th, 600 tons of ore were extracted, against 844 the previous week. The various developments in this mine have not yet taken a favorable turn. On the 23d inst. the shipment to custom mills amounted to 80½ tons of ore.

Crown Point—ruled at $72@75, and closed at $72. The receipts of bullion to date for March account foot up $16,800....Gould & Curry sold within a range of $106@115, and at the close realized $111. On the 22d instant, they commenced sinking on the solid quartz in the shaft, which appeared as promising as that found before work was suspended, but unfortunately the machinery broke on the following day, requiring a stoppage of from three to four days....Hale & Norcross improved from $89 to $94, and at the close sold at $93 50. The bullion receipts to date for March account reach $34,600. At present the future prospects of this company are quite favorable.

Imperial—advanced from $85 to $93, and closed at $94. The accumulation of water in the shaft, reaching to the 1,000 level, at present prevents further developments in the lower levels; however, this will be speedily removed. The shipments of bullion to the 21st instant, aggregate $10,717 85 against $16,256 27 same time in February....Kentuck improved to $270, declined to $259, and closed at $258. To the 24th, the bullion returns for the current month foot up $37,664.

Ophir—sold quite largely at $20@32 50, closing at $32. The new hoisting works "are situated south of the Sierra Nevada, and about 150 feet east of the supposed east vein developed in the Savage and Hale & Norcross. The shaft is 700 feet in depth, from which a drift is now being driven west, which was in 111 feet on the 24th—all the way in hard rock, requiring, so far, no timbering. The rock is improving, and working to better advantage. It is expected that the east vein will be struck in fifty feet further; the west lode, upon which the old works of the company, now closed, are situated, being distant something over 600 feet. At present no water of consequence is met with in the shaft. The company have on hand a large supply of wood, timber and other materials. They are said to be free from debt, and the Superintendent is pushing forward the work of development with great energy and economy."

Occidental—sold to a large extent during the past week, improving from $27 to $31, and at the close realizing $28. From a letter to the *Daily Herald* we extract the following in regard to this mine: The Occidental is situated about three miles from Virginia, on the northeast side of the Leet & Birdsall toll road to Dayton. It was originally taken up in 1860 for lime; the character of the surface rock fitting it for that purpose. The amount of silver contained was so small that it could not be profitably worked for that metal in those days of high prices, although several parties during the succeeding five years attempted it at various times. Finally, in July, 1865, the mine passed into the possession of Messrs. Weston & Slanck, who, having a mill of their own eligibly situated, were enabled to work the rock with a small profit. Since then the quality of the ore has steadily improved, as depth was attained, and the bullion shipment has risen to about $40,000 monthly; $9,000 was shipped during the past week. Under the management of these gentlemen, about 40,000 tons of ore have been worked, yielding over $700,000; the rock averaging from $16 to $18 per ton, and paying a profit of from $5 to $7. At present but eighty tons per day are being shipped to the mill, owing to the wretched condition of the roads, which renders hauling almost an impossibility. It is intended, as soon as the weather admits, to commence the construction of a mill at the mouth of the lower tunnel, to contain forty stamps, or more, if required, with a daily crushing capacity of 100 tons. The mill will cost $80,000. When completed, the immense bodies of low grade ore which the mine contains can be extracted and reduced at a cost which will leave a net profit of from $3 to $5 per ton. This mine is located upon the same lode as the claims in Flowery District; the croppings being plainly traceable for its entire length of 1,800 feet, and through the adjoining claims on the north. No assessment has ever been levied; the rock paying from the surface down. By the workings at present, a body of ore of uniform quality, milling from $15 to $18, averaging ten feet in width, is exposed for 600 feet in length and 400 feet in depth; equivalent to 120,000 tons. Of this, 40,000 to 50,000 tons have been worked, leaving on hand about 75,000 tons. The quantity of low grade ore in sight, which will mill from $9 to $12, and can be worked at a profit when the new mill is erected, is fully as great. Should the lode continue of the same width and quality to the depth of the lower tunnel, a distance of 300 feet from the bottom of the first winze, the company will have sufficient ore for a number of years.

Sierra Nevada—exhibits marked improvement in price, advancing from $35 to $47, and at the close selling at $46. We quote again: The rock at present being worked is obtained from the southeastern slope of Cedar Hill, the excavation commencing about 150 feet above the mill, and being now breasted out 300 feet in length by 40 feet in width, and from 20 to 40 feet in height. In the northern portion of the breast no indication of a wall is shown, but the whole mass presents every appearance of a yield equally good with that now being worked. A drift has been run in on that side twenty feet, all the way in the same material. The extent of the pay on the north side is unknown. The south side of the breast, at several points, shows indications of a wall, or hed rock. They are now taking from the bottom of this excavation about four feet in depth of quartz gravel, which prospects and pays much better than that taken from above. It is not yet known to what depth it will continue. All the ore taken from the excavation is dumped into chutes which deliver it at a tunnel running below the road, whence it is taken in cars to the mill, a distance of about 120 feet. Westerly from this breast, a distance of 300 feet, there is another excavation made at a depth of 30 or 40 feet, which develops the same character of gravel and quartz, that prospects equally as well as that now being worked. From all appearances this will in future be one of the paying mines of Storey county. About twenty men are at present employed in the mill and at the mine. The mill contains twenty stamps, crushing from 40 to 50 tons per day. Under the present efficient management, the rock, being sorted and worked to better advantage, yields much larger returns than formerly, and the fortunate stockholders need not be surprised to learn that the product for the present month, although a stormy one, is treble the amount of that for any other since the mill has been put in operation. All the water used in the mill is pumped from the shaft. The ore is worked for gold alone, being amalgamated in the batteries and run over copper plates. The tailings are run through blanket sluices a distance of from 800 to 1,000 feet. The total cost of running and working is from $3 to $4 per ton, and the yield is from $12 to $15—leaving a very handsome profit. This only refers to the quartz gravel, which is shoveled in as it comes, the sorted coarse rock netting a much larger amount—probably from $40 to $60.

Golden Chariot (Idaho)—was in the market at $50@61. From Prof. Ashburner's report of this mine, we learn that the yield for the month of December, 1868, was at the rate of $190 74 per ton, and in January, 1869, $154 08. It is stated that about $1,000,000 in bullion has been extracted since the autumn of 1867. The monthly product of ore at present varies from 300 to 325 tons, and the total expense, including mining, milling, transportation of ore from the mine to the mill—a distance of 2¾ miles—and all dead work, are from $15,500 to $17,000 monthly. It is stated that there are in sight, and thoroughly developed, about 1,200 tons of ore between the first and second levels, which it appears safe to assume will yield an average of $150 per ton, or $180,000; that between the second and third levels the vein is developed on two sides, and partially on a third, and that so far as explored there appears every indication that this portion of the mine will furnish at least 4,000 tons of ore, the average value of which there is now no reason to suppose will prove less than that taken from above.

Bullion levied an assessment of $10 per share on the 20th, Julia $2 50 per share on the 19th, and Overman $20 per share on the 20th inst.

The Poet Longfellow's Mistake.—The author of Evangeline relates in excellent meter that on a certain evening an enterprising youth was observed climbing a mountain (probably one of the Sierra Nevada range), bearing in his hand something which had the appearance of a banner, inscribed with the word "Excelsior." As "the shades of night were falling fast," and the weather was somewhat misty, it was, of course, easy enough for the spectator to be mistaken as to the character of the article borne by the traveler, and the nature of the inscription. There is now sufficient reason to believe that this was the case; for at the time when this individual was seen, a corps of active young fellows, numbering in all some two hundred, were engaged in planting in the most elevated and conspicuous positions all over the country, signs or tablets bearing on their face the letters and figures, "S. T. 1860—X," the mysterious equivalent of "Plantation Bitters." *

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale
Alpha Cons., Storey co., Nev., div. $2	Pay. June 19, 1868	
Amador Co., div. $6 per share	Payable March 10, 1869	
Arimdon, Nevada, March 17, $2	April 20—May 3	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co., Nev., March 15, $5	April 17—May 3	
Bullion, Storey co., Nev., March 20,..	Payable immediately	
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7 50	Payable Sept. 12 1868	
Chloride Mt. Tun., White Pine, Feb. 2, 50c	Mar 13—Ap. 10*	
Conway, Preferred Stock, div. 1½ per cent	March 16, 1868	
Cherokee Flat, Butte co, March 1, $5	April 3—April 20	
Cordillera, Mex., March 16, $1	April 20—May 10*	
Daney, Lynn co, Nev., March 8, $2.50	April 12—May 3	
Douglas, White Pine	Annual Meeting April 12	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $5	Payable March 10, 1869	
El Tasie, Sonora, March 22, 50c	April 23—May 17	
Folsom St. & Ft. Pt. R. R	March 13, $5...April 13—April 30	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q. M. & M.—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, $5 per sh	Pay. Feb. 28, 1869	
Glenwood, El Dorado co., Feb. 19, $25	April 2—April 2 *	
Great Union, White Pine	Meeting March 29	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hope Gravel, Nevada co., Feb. 24, $1	March 29—April 19	
Hidden Treasure, White Pine...	Annual Meeting April 5	
I X L, Alpine co., Jan. 19, $1 50	Feb. 27—April 5*	
Imperial, Storey co., Nev., div.	Payable June 20, 1868	
Julia, Storey co., Nev., March 19, $2.50	April 22—May 10	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Keystone	Meeting April 2	
Lyon M. & M., El Dorado co., Mar 6, $1	April 12—April 26*	
Mt. Tenabo, Lander co., Jan. 23, 75c	April 2—April 27*	
Maxwell, Amador co., Feb. 9, $1	March 13—April 1	
Morning Star, Alpine co., March 3, $2	April 5—April 26	
Mohawk & Montreal, Nev. co., $3	March 31—April 16	
North Star, dividend, $5	Payable Aug. 15, 1868	
North Amer. Wood P. Co., March 12, $1	April 14—May 1*	
Occidental, div. $2	Payable March 2, 1869	
Overman, Storey co. Nev., March 20, $20	April 23—May 8	
Pacific Unassessable, div.	Payable June 18, 1868	
Pacific, Coal, Contra Costa co., Mar. 20, $4	Ap. 27—May 17*	
Rising Star, Idaho, Feb. 8, $6	March 31—April 3	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1	Payable Jan. 5, 1869	
Star Creek, Nev., Feb. 26, $1 50	March 29—April 19*	
Savage, Virginia, Nev., dividend, $4	Payable March 4, 1869	
Senator, Storey co., Nev., March 26, 50c	May 1—May 28*	
Silver Sprout, Inyo co, March 25, 50c	May 1—May 28*	
Treasure Trove, Lander co., Feb. 15, 20c	March 21—April 12	
Troy Ledge, White Pine, March 16, 15c	April 23—May 24*	
Troy Ledge, White Pine	Annual Meeting, April 19	
Virginia & G. H. Water Co., Dividend, payable Mar. 10, 1869		
Williamette, White Pine, March 22, $1	April 24—May 12	
Yellow Jacket, div., $5	Payable March 15, 1869	

Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, March 26, 1869

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 87	88
United States Bonds, 5 20s, 1864	87½	88½
United States Bonds, 5 20s, 1862	89	91
Legal Tender Notes	77¾	77¾
California State Bonds, 7s, 1857	95¾	—
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	83	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Bonds, 7s, 1866	91	—
San Francisco City and Co. Bonds, 7s, 1862	91	—
San Francisco City and Co. Bonds, 7s, 1864	91	—
San Francisco City and Co. Bonds, 7s, 1865	91	—
San Francisco City and Co. Judg. Bds. 7s, 1863	91	—
San Francisco City and Co. Judg. Bds. 7s, 1864	91	—
Sacramento City Bonds	70	—
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	80	85
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation	65	—
Spring Valley Water Co	67	68
State Telegraph Co	26	—
Gas Companies.		
San Francisco Gas Co	77	79
Sacramento Gas Co	85	—
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	72½	—
Central Railroad	65	—
North Beach and Mission Railroad	72½	74
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	160
People's Insurance Company	100	—
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	126	128
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1390	1400
Union Insurance Co	100	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	84	87
Mining Stocks—Washoe District.		
Alpha	34¼	34½
Baltimore Americau	—	—
Belcher	19	20
Bullion, G. H	15	—
Crown Point	72	73
Cole (Va.)	—	11
Confidence	30	34
Consolidated Virginia	6	9
Chollar-Potosi	172	173
Daney	2¼	3
Exchequer	17	18
Empire Mill and Mining Co	50	—
Gould & Curry	110	111
Gold Hill Quartz	45	50
Hale & Norcross	93	93½
Imperial	94	95
Julia	1	3
Justice and Independent	—	12
Kentuck	258	260
Lady Bryan	14	14½
American	18	18¼
Occidental	28	29
Ophir	31½	32
Overman	58½	59
Segregated Belcher	8½	9
Savage	73¾	74
Sierra Nevada	45	46
Union	—	—
United States	—	—
Yellow Jacket	61½	62
Miscellaneous Mining Stocks.		
Amador (California)	285	290
Aurora, White Pine	18	20
Eureka, (California)	220	240
Golden Chariot (Idaho)	—	50
Silver Cord (Idaho)	10	—
Golden Rule, California	10	12
Mohawk (California)	—	—
Pocotillo, White Pine	10	20

San Francisco Market Rates.

Wholesale Prices.

Friday, March 26, 1869.

Flour, Extra, ₱ bbl	$5 25	@$5 50
Do. Superfine	4 50	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 65
Oats, ₱ 100 lbs	1 75	@ 2 20
Barley, ₱ 100 lbs	1 75	@ 2 25
Beans, ₱ 100 lbs	6 00	@ 7 00
Potatoes, ₱ 100 lbs	75	@ 90
Hay ₱ ton	10 00	@18 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	11	@ 12
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	5	@ 7
Hogs, dressed, ₱ lb	9	@ 10
Groceries, etc.		
Sugar, crushed, ₱ lb	—	@ 17¾
Do. China	10	@ 12
Coffee, Costa Rica, ₱ lb	—	@ 18
Do Ido	16¾	@ 17
Tea, Japan, ₱ lb	75	@ 90
Do. Green	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 10
China Rice, ₱ lb	—	@ 7
Coal Oil, ₱ gallon	48	@ 50
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	35	@ 45¾
Isthmus Butter, ₱ lb	35	@ 41
Cheese, California, ₱ lb	42½	@ 45
Cheese, California, ₱ lb	15	@ 19
Eggs, ₱ dozen	25	@ 35
Lard, ₱ lb	14	@ 15
Ham and Bacon, ₱ lb	14	@ 15
Shoulders, ₱ lb	7	@ 8
Retail Prices.		
Sutter, California, fresh, ₱ lb	45	@ 50
do. pickled, ₱ lb	30	@ —
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 41
Cheese, ₱ lb	20	@ 5
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	45	@ 50
Lard, ₱ lb	16	@ 18
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	1 00	@ 1 25
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	10	@ 12
Peaches, dried, ₱ lb	10	@ 12
Oranges, ₱ dozen	75	@ —
Lemons, ₱ dozen	50	@ 75
Chickens, apiece	—	@ 75
Turkeys, ₱ lb	25	@ 30
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	21	@ 25¾

San Francisco Metal Market.

Prices for Invoices.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, March 26, 1869.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.		
Scotch and English Pig Iron ₱ ton	$ —	@$45 00
White Pig ₱ ton	— —	@ 40 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¾	@ — 04¾
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5½
Sheet, No. 24 to 27	— 05	@ — 6½
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— —	@ — 26
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 35
Steel.—English Cast Steel, ₱ lb	— —	@ — 15
Quicksilver.—₱ lb	— 55	@ — 60
Lead.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9½
Zinc.—Sheets, ₱ lb	— 10½	@ — 11
Borax.—California, ₱ lb	— 35	@ — 38

Aeration of Water.—An interesting fact showing the importance of a thorough aëration of drinking water, has recently been observed in connection with the Fairmount water supply of Philadelphia. Some miles above the point on the Schuykill at which the water for the city's supply is taken out, there are several manufactories, from which refuse matter is drained into the river. For some distance below these manufactories the water of the river is quite dark, from the presence of organic substances; but as it approaches the city, it becomes manifestly clearer. This change has been attributed to an increased absorption of oxygen from the atmosphere, below the points of adulteration, by which the impurities are supposed to be more readily deposited in the form of mud. A reason for this assumption is found in the fact that when the river is covered with ice, as it sometimes is in winter, the impurities are carried quite down to the point where the city's water supply is taken out. So manifest is this latter fact, that at such times numerous complaints are made with regard to the impurities of the water.

Mining and Scientific Press.—This useful and scientific journal has entered upon its eighteenth volume.

To the scientific, mechanic, and practical men of all classes it is almost invaluable; and we are glad to learn that it is increasing in patronage every day.

The publishers, Dewey & Co., San Francisco, say the present volume shall be superior in all respects to its predecessors.

The terms are $5 in advance, $3 for six months.—*San Bernardino Guardian, March 6th.*

Save your eyesight by procuring a properly adjusted pair of spectacles. C. Muller, 205 Montgomery street, understands how to adapt them to the eyes of every one. *,*

No Branch Office.

Our friends and patrons will bear in mind that we have no branch office in San Francisco, our U. S. and Foreign Patent Agency rooms being suitably arranged with our Mining and Scientific Press printing office, at No. 414 Clay street. We have no partners in business except the undersigned. DEWEY & CO.

A. T. DEWEY. W. B. EWER.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

OUR interior exchanges are rejoicing over the late rains. Both miners and farmers feel that they are all right for the season, even if we should have no more rain. "Grain has taken a fresh start, and is growing rapidly." "The prospects of abundant harvests in this section are extremely flattering.' The dirt thrown up by miners during the dry season for future washing, may now be realized from;—mining ground is being worked that is only workable with free water;—and everything is lovely.

CALIFORNIA.

ALPINE COUNTY.

From the *Miner*, March 13th: Another run of 18 ft. was made in the Imperial tunnel last week.

The wheel at the M. C. mill is being set this week and the grading for the flume is nearly completed.

The last 13 shifts, working in the Alpine Tunnel, have added 15 ft. to the length thereof, and that too, all in the ledge. The character of the ore is improving day by day.

The Tarshish Superintendent will arrive here next week, when we may expect an early resumption of work.

The water is out of the Morning Star shaft and the work of drifting commenced. A disiuterested party tells us that the drift is already in the casing of the lode, and some ore is found all through it.

Silver Mountain *Chronicle*, March 13th: For the past few days the condition of affairs at the Pennsylvania claim has been the chief topic of conversation, and the prospect of soon striking the ledge has set some parties post-haste after non-resident stockholders, hoping to get their stock at a low figure. The tunnel is now in 920 feet, in easy working rock, and water is now coming in in great quantities. The distance from the mouth of the tunnel to the perpendicular of the croppings is 1,000 ft., and as the ledge evidently pitches toward the workmen it is very clear that the ledge will soon be reached. The mouth of the tunnel has been locked up and none but the Superintendent and workmen will be allowed to enter until after the ledge is struck and the stockholders notified. The Trustees are determined that those who have stood by the company shall reap their portion of the benefit that will accrue.

AMADOR COUNTY.

Dispatch, March 20th: The new shaft on the Coney & Bigelow lead, near town, has been sunk down to the depth of about 40 ft., and the work is progressing finely.

CALAVERAS COUNTY.

Chronicle, March 20th: One-half interest in the celebrated Petticoat mine at Railroad Flat, has recently been sold to Capt. Merryman, of Benicia, for $40,000. The terms of sale, as we are informed, are: $20,000 paid down, the balance to be forthcoming when the shaft is sunk 100 ft. deeper. Operations upon the mine will be pushed forward with energy. A new shaft in a more favorable position than the old one, has been commenced, and powerful machinery will be erected as soon as it can be obtained from San Francisco. Work is also progressing in the levels already run, the ore extracted yielding from $50 to $100 per ton.

Chapman, Hopper & Co., at Railroad Flat, have out nearly 100 tons of rock, that will average $60 per ton, which will be crushed as soon as Stuart's mill is completed. The rock previously taken from this mine, near the surface, paid $57 per ton, unassorted. The lead increases in width and richness as they go deeper. Sanderson, Gay & Co. have also a large quantity of rock out, and are constantly employed in sinking upon their claim. The ore prospects largely. The Balmoral and Chemisette are lying dormant. But very little work has been done upon them, although their appearance on top is favorable. Cudell & Co., and a number of others, are busy at work. Railroad will be the liveliest camp in the county this spring.

A letter from the above place says: Lewis & Co's claims, near Wet Gulch, is being carefully worked and is yielding exceedingly rich ore. They will commence crushing in a short time.

Twenty pounds of rock taken from the lead of Sanders & Co., Washington Ranch district, yielded $15.75.

EL DORADO COUNTY.

Placerville *Democrat*, March 20th: We have been informed by a correspondent at White Oak, in this county, that the Pyramid Quartz Mining Co. have been doing exceedingly well during the past winter. Also that Cooley, Smith and others, have discovered a very rich vein of quartz on Mormon Ravine. The lode is well-defined and about two ft. in width, and as far as prospected yielded about $100 to the ton. The indications are favorable of its becoming a paying claim, as the gold appears to be evenly diffused through the quartz.

LOS ANGELES COUNTY.

We learn from Mr. Messmer, who arrived on Sunday last from the Soledad mines, that the mill of Searles & Co. is now in running order. It carries five stamps at present, but has a capacity for twenty. It is running by water-power, having an abundance of water all the year. The parties invited their friends to partake of a collation and witness the starting of the mill, and a considerable number assembled. The mill worked beautifully, and will henceforth be kept going day and night—they having a large pile of rock on hand. The erection of this mill will give a new impetus to mining at Soledad, as large quantities of rock have been waiting to be crushed for months. Kabler & Co's mill has been running some time, and the ore pays well, and some parties are running arastras. A large number of people are flocking to these mines, and prospectors are finding new lodes every day. It is the intention of the Searles Co. to put on more stamps as soon as they can be procured.

NEVADA COUNTY.

Gazette, March 19th: Geo. F. Sharp has commenced suit against Sheriff Gentry, to compel the conveyance of the New York Hill Quartz Co's property, purchased by Sharp under execution.

E. F. Morse and others located on the 10th inst. 12 claims of 100 ft. each on the Higgins and Larrimer ledge, situated near the Larrimer mill on Wolfe Creek.

Letter from Anthony's Flat, March 16th: This community is highly encouraged with its quartz prospects. The Scandinavian has three arastras running. A contract has been let for the taking out of 500 tons of rock. The rock shows more free gold than any yet prospected. A good return is looked for when the clean-up is made. No Chinamen are employed.

Same of 20th: A crushing of 123 loads of quartz from the Lamarque ledge, on New York Hill, just made at the Sebastopol mill, yielded $2,197.

Transcript, March 28th: A company is putting up machinery for raising rocks and opening the lower end of Jones' Bar on the Yuba river.

The Mohawk and Montreal Co. are making good headway in running up the 400 foot level, and the rock shows an increase of rich sulphurets.

Same of 23d: The mining companies whose claims are located in the upper part of Nevada township, in the neighborhood of the Deer Creek Cascades have abundance of water and fine prospects. The Nevada Consolidated Co., Stranahan Superintendent, have two sets of mining claims at work, the Burrington Hill and Chalk Mountain claims. They are now working in the former with 400 inches of water and are making rapid progress in their 60-ft. hanks. Running through this claim, which has been thoroughly prospected by tunnels, they have seven channels or side washings from the main channel, all of them rich. In the Chalk Mountain claims they are running tunnels for the purpose of prospecting. The Red Diamond Co. are washing the gravel which they take out of the tunnel, and they have a fine prospect. Stephens & Co. commenced running yesterday. Houton & Co. have been washing all winter in the bed of Green Horn Creek and are doing well. The Enterprise Tunnel Co. have struck first rate gravel in their tunnel. The prospects in this locality were never so good, and as the late rains have given abundance of water, there is every prospect that large returns will be received during the summer and fall from these claims.

Grass Valley *National*, March 18th: Frank Morse cleaned up on Saturday $1,108, from a run of five days with eight stamps. This is exclusive of the sulphurets, which are both abundant and rich, and the rock crushed was the poorest which he had on hand.

Same of 19th: A. E. Davis, Michael Colbert and John Anderson arrived from San Francisco to-day. Mr. Colbert informs us that work will commence to-morrow at the Allison Ranch mine and the pumps will, in all probability, be raising water within a week's time.

Same of 20th: The certificate of incorporation of the Orleans Mining Co. was filed in the clerk's office yesterday. The company is formed for the purpose of locating, holding, purchasing, and working of mining claims and quartz lodes on Houston Hill, Ophir Hill and Osborn Hill.

Union, of 20th; Several of the old Grass Valley quartz miners arrived by stage yesterday. They mean business, of which the public will be apprized soon.

Between 40 and 50 passengers came through from Colfax yesterday. White Pine is not monopolizing all the travel.

Same of 23d: The incline shaft of the Allison Ranch mine is 480 ft. deep, and as soon as it is free of water, rock can be taken from the drifts and stopes. Little, if any work is expected to be required in repairs in the levels of the mine, as the ground is very firm. If no untoward circumstance occurs, the old mine, in a few weeks, will be again in full blast. The Wisconsin and Illinois mine has again started up. They expect to have the water all out of the shaft in 10 days, when work in the drifts will be immediately resumed. The Hartery mine, which has also been standing idle for some time, was leased to a company of practical miners a few weeks ago, and yesterday the mill started on rock from it.

Both the *Transcript* and the *Union* contain editorial articles setting forth the wildness of the rush to White Pine in spite of the warnings which are sounded; and try to show that, all things considered, there is no doubt that a man can do far better by going to Nevada County. It is by no means unlikely. The *Transcript* says: "In the older mining localities there are many claims which it would not pay to work years ago when wages and water cost double present rates, which can be worked now at a profit. There are also large ranges along the gravel channels which have never been prospected." The *Union* says: "During the coming season there will be more work offering in our mines than for years previously, and the labor of every miner here will not only be required, but there will be a demand for more."

PLACER COUNTY.

Auburn *Stars and Stripes*, March 18th: We learn of gold-bearing cement being struck in Thompson's Hill, just below the town, of almost fabulous richness, paying $200 or $300 to the pan. It has long been known that there was a large body of cement underlying the hill, which contained gold. From tests recently made there is no longer reason to doubt that the cement may be worked to great profit.

Herald, March 20th: We were shown yesterday a specimen of the cement recently struck in King Bro's claim, and also in the Baker Boy's claims, at Dutch Flat. The piece is about three inches long by one and a half wide, and three-quarters thick, and contains, imbedded in the bluish cement, coarse, bright washed gold, to the value of about $20. It is one of the richest and most beautiful specimens that we have ever seen. This cement was taken from about six feet above the bedrock, and will yield from $300 to $1,000 to the pan. The miners of Dutch Flat think they have actually tapped the celebrated "blue lead," and have vast sums within reach.

PLUMAS COUNTY.

Quincy *National*, March 13th: O'Neill & Leavit have discovered some rich ground in one of the branches of the old Betsy Gulch, near Elizabethtown, and are now at work on a ditch to bring water to the claim. Their prospects are good.

The Caledonia mill at Cherokee is running steadily, and is crushing good paying rock. Judkins & Kellogg have struck the ledge in their lower level,—seventy-five ft. deeper than their old works,—and are taking out paying rock. As usual, their mine is paying first rate. Stewart sold out half of the Stewart & White ledge, recently discovered, to Bachelder & Bellas, for $900. The purchasers have been offered a large advance on their purchase, but don't wish to sell. Cahalan has struck his ledge—the Bon-Accord—in his tunnel.

SIERRA COUNTY.

Downieville *Messenger*, March 20th: Good pay has at last been struck in the Union claim at Queen City. In five days' running last week, they took out 149 ozs., washing no stock dirt, but taking it as it came out of the claim. In the Monte Cristo, adjoining the Union, in nine days' running, 189½ ounces were taken out.

The Pioneer Co., of Grass Flat, has let a contract to Phillip Dory and John Jackman, to run 1,000 feet of tunnel, at $12 per foot.

SHASTA COUNTY.

Courier, March 20th: Moore & Co., of Portuguese Flat, have cleaned up $800 since the winter set in, and M. J. Hearst, whose claim is located on the same flat, has taken out a still larger amount. The balance of the miners on the flat are making fair wages. The Hazel Creek mines have paid better this winter than ever before. Andrews & Garet have struck good pay on Pitt Flat, and last week they took out seven pieces which they sold for $50. Clark & Miller have cleaned up over $1,200 during the last few months, and are still doing well. Nickols and others opened a claim on the head of this creek this season, and have made from $5 to $8 per day to the hand ever since they commenced work. Heretofore the mining has been confined to the bed of the creek, but experiments made this winter prove conclusively that the banks and bars will pay from the head of the stream to its mouth. There is paying ground here sufficient to furnish claims for 200 miners, and water is also abundant. Soda Creek has been almost abandoned this winter, but will be extensively worked next summer. It is almost impossible to work on that stream in the winter time.

SISKIYOU COUNTY.

Yreka *Union*, March 13th: Hon. John Dagget, who was in town a few days ago, informs us that the Black Bear Co. have been taking out and crushing more rock this winter than usual.

Scott Valley correspondence has this item: The Etna Mining Co. is running night and day, with every prospect of realizing a big yield. I was informed that there is not a dollar's worth of the companies stock to be had at any price.

TUOLUMNE COUNTY.

Sonora *Democrat*, March 20th: A little daughter of Mr. Jo. Aldridge, of Green Springs, one day last week, picked up near her father's house a piece of gold worth $20.

COLORADO.

Georgetown *Miner*, Feb. 11th: E. W. Rogers is actively developing the Junction lode, on Democrat Mountain. The shaft is now 45 feet in depth, carrying about a 3-ft. ore vein. The ore is quartz and mineral combined, some specimens being very rich, and the whole vein pays a nice profit above the expenses of mining and reduction.

The adit on the Mendota lode is now in 100 feet, the vein carrying from eight to fourteen inches of mineral. The surface ore carried scarcely any galena, and from $19 to $90 in silver. The ore they have been in for the last ten feet, carries 50 per cent. of galena and $548 in silver, to the ton of ore.

Same of 25th: Experienced judges estimate that there is now in sight in the Terrible and Equator lodes, not less than $2,000,000 worth of ore, that can be easily and economically drifted and stoped out.

Clark Hedge has discovered a fine lode on Sherman Mountain, about 500 feet below the Snowdrift. He has about five feet of quartz, carrying a goodly quantity of sulphurets.

Work on the crushing and dressing works is progressing favorably.

Huepeden & Co. have taken out and shipped, since our last report, silver bullion to the amount of $2,294.48, coin value. They are not running to their full capacity, as they cannot obtain a full supply of ore.

Stewart has shut down his works for the purpose of putting in three Blatchley pans. He will commence running again in about ten days, prepared to treat ores by raw amalgamation. He has just finished a lot of Snowdrift ore, that gave a yield of something over $100 per ton. The bullion was .910 fine.

Colorado *Herald*, Feb. 25th: Robert Teats has struck the biggest pocket of rich ore yet found in his mine. He took out eight tons of first-class ore yesterday. The streak is now over eighteen inches wide.

Mr. Fitzpatrick is running his stamp mill on ore from the Bates or Hunter lode, for John Sanderson. Mr. Sanderson has his shaft down to a depth of 240 feet, and at that depth has a very large vein of ore.

Neikirk & Virden commenced to sink on the Dead Broke this morning. For the past few weeks they have been moving wall rock. They are also running Walker's new 18-stamp mill, below Black Hawk, with good success.

Ten stamps of Brastow's mill in Lake Gulch are being run on Bobtail ore. There is not enough water to run the full capacity of the mill, which is a 30-stamper. Below Mr. Brastow, Mr. Cheney manages to keep his mill in motion on custom ore.

A very rich silver lode has lately been discovered on North Clear Creek, in what is known as the Bay State Mining District.

There are five companies at work drifting on North Clear Creek, above the mouth of Russell Gulch. The water, since the advent of the late spell of cold weather, is very scarce, there being scarcely a full sluice head. Alex. Cameron is making preparations to open his claims above the Junction, and will run two branch flumes. His main flume is to be 24x24 in the clear.

Boise City *Pioneer*, Feb. 17th: Dan. Sutphen is at work on the California lode, in Ward district. This lode has been in the cap for a long distance. This is now passed through, and Dan. reports a fine looking vein of ore, three feet wide.

Blake & Gleason's quartz mill, at South Boulder, is being removed and set up in Sugar Loaf district. It has eight stamps, and will be run by water-power, on custom ores.

T. J. Hill, of North Boulder, informs us that Samuel Conger and himself have discovered a fine silver-bearing lode—an ore of grey copper and black sulphurets. The ore seam is two feet wide and promises very richly.

Same of 24th: A fund of $40,000 has been secured, to be used in working the mine and mill of the Hoosier Co. Operations will be carried on briskly the coming season.

We have been shown some samples of ore from the Legal Tender lode, recently discovered by Mr. John Duncan. It looks the best of any surface ore we have seen in this country.

Some parties are mining and prospecting this winter at Gold Hill. We understand that a new gulch is to be worked.

Mr. Ramage, from Ward, says that snow is making surface mining rather tedious.

There is considerable excitement in Burlington over a discovery of gold. The new diggings are about one mile below the town, and are very favorably situated for working.

The Hoosier mill will soon be running to its fullest capacity, and this will be increased as soon as receipts will justify. The mine is in shape so as to produce any amount of ore.

Letter from Sugar Loaf, Feb. 16th: "Messrs. Blake & Shively have lately discovered a rich lode in Pennsylvania district. The name they have given it is the Viola. They will start work soon.

A few days since, John Duncan, an old prospector, struck his independent fortune by discovering a 3-foot vein of sulphurets of silver. He has given it the name of Legal Tender.

N. G. Snyder has made two rich discoveries on Sugar Loaf Mountain, the La Plata and Marietta.

Several parties talk of erecting reduction works on Four Mile."

IDAHO.

Owyhee *Avalanche*, March 13th: We are glad to be able to announce that the Rising Star mill is about to steam up again. Mr. Hall, the Superintendent, is vigorously making preparations for a long run. Mr. Cole's claims have been paid off and the attachment released. The hands have been paid. Mr. Frank Dougherty informs us that the mill is one of the best arranged he has ever seen, and the mine is looking exceeding well, the ore rich and abundant.

The Ida Elmore mill will start on the 20th. The New York mill is running on Poorman ore.

Total coin value of bullion assayed in Owyhee County during February, as returned by the Assistant Assessor of Internal Revenue, $68,098.05.

The Boise *Democrat* is informed that extensive preparations are being made for working the Willow Creek mines, as soon as the miners have water.

The Idaho City *World* of March 4th, says: Miners look hopefully for the working season to open in a few days. It promises to be a very profitable one.

Silver City *Tidal Wave*, March 16th: We learn from the *World* that the Elk Horn mine near Hog'em, has out about 400 tons of rock, and the mill will commence crushing in a week or two.

Thirteen bullion sacks, each containing a bar, aggregating a value of over $35,000 coin, were shipped for San Francisco on Friday morning.

Portland *Oregonian*, March 6th: We have received information from a reliable source, that a new mining district has been lately discovered—or rather, the knowledge of its discovery has just come to light—on Moose Creek, a tributary of the South Fork of Clearwater. A party of 10 or 12 men who made the discovery just at the setting in of winter, and who have remained there at work since, came down to Lewiston a few days since after provisions. They had with them several thousand dollars of the dust they had dug—very handsome and coarse gold. They represent the district as rich as the Florence district, and as extensive. It is about 180 or 200 miles from Lewiston.

MONTANA.

Helena *Post*, March 5th: The approaching mining season promises more favorably to all classes than that of last year. We now have 18 quartz mills of 280 stamps, running regularly, and yielding generally good profits. Many new mines have been opened in Deer Lodge, Jefferson and other counties, ditches have been brought into paying gulches and upon bars where water hitherto could not be had;—and several of the best, which could be worked last season but for a short time, will in all probability be favored.

Bohm & Co. assayed yesterday morning the last yield of retort from the Nowlan mill, at Cable City, forming a large brick, containing 520 ozs., which was valued at $11,870, currency.

Virginia City items: Capt. Guyer has purchased the mill and machinery of the New York & New Jersey Gold and Silver Mining Co. at Bannack, and several very valuable silver lodes of Mr. Stanton, situated in Brown's Gulch. It is the intention of Mr. Guyer to immediately erect in the vicinity a splendid first class mill, furnished with a full set of Bullard pans.

Seven bars of gold, aggregating 310 ozs., the current value of which was $10,000 in currency, was brought into Virginia City as being the result of about two weeks run on unselected rock from the Green Campbell lode... A project is on foot to organize a company to conduct the waters of the Madison river into Alder Gulch.

NEVADA.

REESE RIVER.

The Austin *Reveille* of March 16th., gives a full history and description of Rosevillo district, discovered and organized in 1866, but never much worked, although a 5-stamp mill, the Rutland, was put up and run for a time. The particular reason for the article becomes evident towards its close. We quote a few paragraphs:

"Latterly some attention has been turned to the mines of the district, by reason of the extraordinary developments in White Pine. The districts are similar. It was used to be objected to Reveille that its ore occured in limestone and would not be permanent. But White Pine has made limestone the fashion, and the objectors are silent. The splendid success of that district will prove 'sugar on the lime' of Reveille. We believe the mines of that district, with their rich ore, will command the attention of capital before the close of this year."

For the Southeast.—Early this morning six men, divided into two parties of three each, with capital outfits for a month's prospecting, left this city for exploration in the southeastern part of the State.

In its issue of the 17th, the same journal gives the history of Battle Mountain district, lately become important from the fact that the cars on the C. P. R. R. run within a few miles of its principal camp. From the "Little Giant" have been crushed tons of ore which averaged $300. The Reveille evidently does not believe that there is nothing else in the world but White Pine, in the way of mining ground; and he means to keep before the people the recollections of the wealth nearer home.

Nye County.—The Belmont *Champion*, March 13th, says: "It is currently reported that Alexander McKenzie has lately struck an extensive and rich deposit of ore in El Dorado Hill, at a depth of about 180 feet from the surface. The claim, which is owned by a Gold Hill Co., is situated on the same hill, and some distance north of W. F. Leon & Co's El Dorado South mine, and the character of the ore is precisely the same as in that famous mine. There is no doubt but that it is the same ledge."

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

Territorial *Enterprise*, March 18th: The timbering of the shaft of the Gould & Curry will be completed within three days, when the work of sinking will be resumed. The cave did not break through the platform at the bottom, therefore there will be a certain amount of slum to remove from the sump. Some very promising ore had been struck in the bottom of the shaft at the time the cave occurred.

Occidental.—The water in the lower tunnel of this mine is increasing. A vein struck night before last was found to be almost milk warm. As yet the tunnel has cut no vein matter.

Sienna Nevada.—This company have made a good clean up for their last run of 15 days, and in the works are finding ore much richer than ever.

Justice and Independent.—The company are finding some very fine rock on their 160-foot level. Many specimens containing free gold have been taken out within a day or two. Ore of a promising character has also been found at the north end of the drift.

Imperial.—No developments of an encouraging nature have yet been made in the drifts from the bottom of the Imperial Empire shaft. The rock on the lower level is very hard.

Same of 21st:

Gould & Curry.—Owing to a slight accident to the machinery, the pumping engine was stopped for a few hours last night, when the water raised in the shaft to the hight of 10 feet. The necessary repairs have been made, and the water has again been reduced to its former level.

Sierra Nevada.—This company will shortly resume drifting on their lower level. The rock found on the surface continues to increase in richness as the work progresses to the westward.

Confederate.—The parties who are working the old Bajazetto and Golden Era ground through the Confederate shaft, on B street, are taking out some very good rock. The shaft is down 150 feet, from the level of which the old Bajazette shaft is used as a winze 50 feet deeper. From 60 to 70 tons of ore per day are being taken out.

Crown Point.—The company are engaged in repairing their shaft, which has been badly injured by the swelling of the clay and rock through which it passes. It will require some two weeks.

WHITE PINE.

[The latest items of news and information from this district will be found on another page.]

Railroad Items.

Stockton and Tulare Railroad.—The citizens of Stockton, after holding several public meetings with the view of devising some way of building this road according to the plan generally adopted in this State, —at the public expense,—finally hit upon the novel expedient of building it with their own money. At an informal gathering of a number of citizens, held on Saturday of last week, it was proposed to form a joint stock company, with a capital of $300,000, in 50 shares of $6,000 each; the said company to own and control the road entirely, asking no aid from either city or county, and locating the line where it will best suit the interests of Stockton and the valley south. The plan was first mooted about 9 o'clock, and in less than two hours, 25 shares, representing $150,000, or half of the required capital, were taken. The men who are leading in this movement are some of the most enterprising and substantial citizens of Stockton. In addition to the amount of capital stock, subscriptions will be asked of the people in both city and county, in such amounts as they may feel able to make. This plan looks feasible and business-like, and we trust will be earnestly pushed forward, until the whole of the large and fertile valley region to the south of Stockton is opened up to ready communication with that city, as the initial point and tide water terminus.

It is estimated that $300,000 will build the road to the banks of the Tuolumne river, and that it can be completed to that point the present season. The sum named is certainly most insignificant for the work to be performed; yet it is said to be sufficient. As soon as this initial section is completed, the investment will no doubt begin to pay, and will lead to the ready procurement of whatever additional amount may be needed to push forward the enterprise, southward from the Tuolumne, as fast as the growing business of that region will warrant. This road is one that is greatly needed, and we hope to see the work go on with as little delay as possible, and trust that we shall be afforded an early opportunity to state positively that the enterprise is beyond the possibility of delay or failure.

Stockton to Visalia.—It is said that Gov. Stanford and associates are engaged in surveying for a railroad route from Stockton to Visalia. If two roads were built, they would have to run nearly parallel and but a few miles apart, for nearly a hundred miles—in a southeasterly direction and along the easterly side of the San Joaquin valley. A main trunk to the neighborhood of Fresno, some eighty miles from Stockton, and west and east branches from that point to Visalia, and the west of the Tulare Lake, respectively, is what and all that is needed for the present to meet the growing wants of that region.

The San Pedro Railroad.—The bridge about three miles from Wilmington is completed, and track-laying renewed. The road is nearly all graded, and it is confidently predicted that the entire road will be finished and in running order by the Fourth of July.

The Vallejo Railroad.—The Marysville *Appeal* is informed that the Vallejo railroad will be completed to Yuba City by the first day of September next, and building of the Feather river bridge will be completed as soon as the road reaches that vicinity. The bridge is expected to cross the river a few rods above the present bridge.

The Feather River Road.—Work on this road, which is to connect Oroville with Virginia City, will be pushed vigorously as soon as commenced, which will be in a few days. In view of the early completion of this road the Butte *Record* calls on the Chicoites to take hold and build the California Northern Railroad on to their city, and thus place themselves in connection with a feasible railroad over the mountains, and with a line now being built from Vallejo and Marysville. The *Record* presses on them with considerable vigor the advantages they would thus secure to their section.

Warming the Hudson River.—A correspondent of the Brooklyn *Union*, who has been visiting Seneca lake—a body of water that never freezes over—makes the following astonishing suggestion: Considering that the immense volume of water of Seneca lake, in its high altitude, is kept from freezing by sub-aqueous springs, why cannot Hudson River, with its currents, its ocean tide, and salt water, its thousands of craft plying its surface, be kept from freezing by sinking artesian wells along the bottom of its channel? These wells, when once bored, never cost anything to run them. What millions of freight would be saved? This noblest of rivers would be no more ice-locked for a large portion of the year, rendering its lovely banks secluded and bleak; but from the bowels of mother earth a perennial warm fountain would flow, unlocking forever the present forbidden barriers, and enriching the State. There are moneyed interests along the river to expend a sum for the experiment. If, as in most other places, there can be the attainment of one warm stream from an artesian well in the bed of the river, the entire reclamation of the Hudson River for winter navigation is an assured success.

Gestation Among Fishes.—The modes of gestation among fishes is astonishingly various. Some are viviparous. In several species the eggs are carried about the outside of the body of one of the parents. In some the eggs are attached to the forward fins and under side of the head. Some are carried and hatched in a pouch precisely analagous to that of the kangaroo. In Guiana, during the breeding season, cat-fish are offered for sale with their mouths literally crammed with eggs and young in different stages of growth and development. Agassiz has recently observed in Brazil that many species of chiromoids carry their eggs at the back part of their mouth, and that some species of the loricarias carry their eggs attached to the broad membrane which surrounds their mouth.

Hardness of Silver.—Goldsmiths often complain of the hardness of silver, which is sometimes very difficult to carve, and presents a dead gray cut. These properties are generally attributed to the presence of a foreign metal; but M. Mathey, assayer at Locia, has shown that in this silver there is neither tin, lead, nor any other injurious metal. He considers this property to be due solely to the high temperature at which silver is cast. By letting the crucible cool till a slight solid crust is formed on the surface of the fused metal, and casting at this moment, a soft silver with a brilliant cut is obtained.—*Dingler's Journal.*

One Million.—The weight of one million of dollars in gold is within a few pounds of one and one-quarter tons, avoirdupois.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

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CENTRAL CITY, C. T.—Messrs. Richards & Grane, of the City Book Store, Main street, will act as our agents.
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CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.
OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.
Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:

Saturday Morning, March 27, 1869.

Notices to Correspondents.

MENDOZA, San Bernardino.—The planting of trees, no matter of what species, would undoubtedly tend to ameliorate the periodical dry season of your extensive inland county. Mr. Boressingault, in a wide experience in both Americas, and devotedly deep study of this interesting subject, asserts that extensive clearing of wood is followed by aridity, and when the reverse from accidental causes has occurred, the converse result has followed. In the first place, he contends that where extensive clearings are made, the annual rain-fall for such a district diminishes. In the second place, where the soil is deprived of umbrageous covering, evaporation goes on more vigorously; and lastly, when a great extent of land is dis-forested, and brought under arable cultivation in warm climates and the absence of moisture compensated by artificial irrigation, the latter greatly diminishes the amount of water flowing in the lower courses of rivers, and prevents the formation of lakes and similar natural compensating reservoirs, calculated to more equally regulate the flow of streams throughout all seasons of the year.

TAPIOCA, in chemical composition, does not vary much from rice, being chiefly composed of starch. This alimentary substance is derived from the *jatropha manihot*, a plant chiefly indigenous to the Brazils and Guiana. It contains, as expressed from the green root, one of the most active vegetable poisons known, being so deadly poisonous, that the natives employ it to poison their arrows. The juice, if allowed to stand after expression, the supermatant fluid is then decanted, and the crude precipitated tapioca is repeatedly washed with water until eventually the tapioca is rendered fit for use. A bread known as cassava bread, is also obtained from the same root.

FLORAL.—May-day celebrations are derived by us from our English forefathers; even the ascetic pilgrim fathers not being insensible to the beauties of the hawthorne and its customary accompanying charming weather. The English derived their practice from the Romans, and the Romans from the Greeks. A floral holiday betokens a poetical taste for nature and a mind free from griping and sordid cares.

FMELTER, San Francisco.—You put the matter on the proper basis, in inquiring as to the most economical way of smelting your ore. Without the aid of a competent smelter, however, you can do nothing. If your ores are pure enough, a Scotch hearth, or the Japanese contrivance, illustrated in the PRESS some time ago, would answer, and be more economical. Pure galena need not be crushed fine. The separation is by cupellation, in which the oxide of lead flows off.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

Gold in China and Japan.

Mr. Pumpelly, in his recent Smithsonian publication, referred to in our issue of the 10th of October last, gives a table of localities of gold washings in the Chinese Empire, from which it appears that the gold regions there are quite extensive. Gold washings are found in fourteen out of the eighteen provinces of the Empire. Most of the localities furnish coarse placer gold, some of them quite large nuggets, and many are said to be very rich. The general working of these mines has been discontinued by order of the government, in accordance with some of their peculiar theories of finance. Unless the exhaustion of these placers has been greater than the imperfection of Chinese mining would lead us to suppose, there is much reason for believing that the gold regions of China are among the most extensive and richest which yet remain for scientific exploration. Gold in place undoubtedly exists there, although it does not appear from the papers before us that it has been discovered.

The existence of gold in Japan was known to the early Dutch traders in the East Indies, many of whom enriched themselves by purchasing and exporting the gold to Europe. The relative value between gold and silver was then, as more recently, much less than those in other parts of the world; hence a most favorable opportunity was presented for such traffic. The export of gold at one time reached an average of $2,500,000 annually, and nearly the same amount of silver found its way out of the country. This drain of the precious metals so alarmed the Japanese that important restrictions were placed upon their export. Good authority has estimated that fully $225,000,000 in gold and silver were exported from Japan during the seventeenth century.

During the early intercourse with that country gold was mostly exported in *kobangs*, a Japanese coin, worth in Europe $11 in silver; but which was valued in Japan at only $8.40. A still less disproportion between gold and silver existed at the time of Commodore Perry's visit to that country. At that time the relative difference was as one to three and one-seventh. To avoid the great drain which followed this discovery in connection with the reöpening of the Japanese ports, that government reduced the weight of its gold coin without changing its value, so that the relative values of gold and silver are now about the same in Japan as in other countries.

The first discovery of gold in Japan dates back to the year 708, previous to which time that people imported all their gold from China. The first recorded visit of a European to a Japanese gold-field was that of a Roman Catholic priest in 1620, a glowing and no doubt exaggerated account of which was sent to Europe.

The gold mines of Yesso, Northern Japan, were visited in 1862 by Mr. Pumpelly and Prof. W. P. Blake, of this State, acting as Commissioners for the Japanese Government. According to the publications of these gentlemen, the mines are government property, and are worked only on a limited scale. The works consist merely of washings, and yield but a small annual amount. The gold is found in the river beds and in the high terrace deposits on hill sides. Some of the placers have been worked over many times. (The Japanese method of washing for gold was illustrated in the PRESS of October 10th, 1868.) Trees were observed standing in some of the old workings which it was thought could not be less than 300 years old. To work these old placers, extensive ditches had been cut for many miles, exactly similar to those in use in this State. Ground sluicing is a method much employed there, aided by straw mats, upon which the concentrated gravel is drawn with a hoe. Up to the time of the visit of Messrs. Blake and Pumpelly, no board sluices, toms, or quicksilver appear to have been used; but these American adjuncts were subsequently introduced upon their suggestion.

The New York Elevated Railway.

The crowded thoroughfares of New York City have long urgently demanded additional conveniences for passenger transportation between the upper and lower portions of that city. Two plans, only, appear to be practical for the accomplishment of this end—either an underground or an elevated railway. The practicability of the latter will soon be thoroughly tested. A railway of this description has already been constructed from Cortland street to the Battery—a distance of about one-third of a mile. The road is supported on iron pillars, at an elevation of about twelve feet above the pavement—the inner rail being directly over the outer edge of the curb-stone.

Experimental trips were made upon this road on the 5th of February, in presence of the directors and a few invited guests. We were present at this trial and had the pleasure of a ride over the road. The cars are constructed very much like ordinary street cars, with front and rear platforms, where the conductor or brakeman controls the movement of the vehicle. The car is propelled by a series of endless wire ropes passing over pulleys, and kept in motion through the entire distance by a stationary engine placed underground, at the Cortland end of the route. At intervals of about 200 feet, along these ropes, and firmly attached to them, small upright iron standards are fixed, projecting upward three or four inches. When the brakeman wishes to start the car, he simply moves a lever and throws down a strong iron clamp which comes in contact with the first one of the aforesaid uprights which comes along, and by means of which the car is instantly set in motion and carried forward until it reaches the desired stopping place, when the brakeman has merely to reverse his lever, thus elevating the "clamp," so as to break the connection with the endless rope, and the car is brought to a standstill. The whole process and machinery is exceedingly simple and equally as safe as horse-power.

The car moves along very quickly, and with a steady, gliding motion, forming a most pleasant contrast with the ordinary travel upon a horse railroad, especially through crowded thoroughfares. We particularly observed that the horses below did not appear to take any notice, whatever, of the car. The road presents but little obstruction to the occupants of the buildings along whose front it passes. Most of the people in the street gazed with evident surprise at this new mode of travel, and evinced much curiosity to learn the secret of the locomotion.

The directors and invited guests expressed their fullest confidence in the apparent success of the enterprise, and were quite unanimous in pronouncing the Elevated Railway a practical success. We understood that it is the intention of the company to push the construction of the road out as far as Thirtieth street, as soon as possible, where it will connect with the Hudson River Railroad. Trains will be run each way every fifteen minutes. The rate of speed attained at this trial was about one mile in six minutes. If the anticipations of those who witnessed this same are realized, this mode of travel will soon become decidedly popular among the denizens of Gotham.

WE have received from the Montana Publishing Company a copy of the Montana Statistical Almanac, and Year Book of Facts, for 1869. It contains much valuable information, of which we shall avail ourselves hereafter.

REPORTED GOLD DISCOVERIES IN ALASKA. The schooner Ann Eliza, which arrived at this port on Tuesday last, from the Island of Kodiak, brings intelligence of valuable gold discoveries reported to have been made at three different points, wide apart, on the coast of Alaska. The first and most important, was on the banks of the Knyak river, which empties into Cook's Straits. The locality is near the seacoast, and in about latitude 62°, longitude 150°; the second was on the banks of the Chicut river, at a point about sixty miles above Sitka, and near the northern base of Mt. Fairweather; the third was on an island, the name and locality of which are not given. At the first named, according to the reports, one teaspoonful of gold dust was obtained from three shovelsful of gravel, taken six feet from the surface. The steward of the schooner exhibits specimens of fine dust, and several nuggets, said to have been obtained from the first locality. The discoveries were made by a Russian engineer, who was out on a prospecting expedition. There is nothing particularly improbable in the finding of gold in Alaska; but that country is too far off and too far north to make it a very desirable locality for mining operations. The season there would not admit of out-door work more than five months in the year. Moreover, much allowance should be made for exaggerated accounts of any discoveries which might be made there.

THE GENTLE SHOWERS OF SPRING still continue, at intervals, to scatter their refreshing bounties over the land, and our interior exchanges are profuse in their expressions of gratitude and joy at the prospects of the coming harvest. By some, the recent pluvial bounties are regarded even in the light of a special Providence, which has visited us just in season to avert calamity from our fields. Judging from the tone of the press, it is seldom that we witness a community more full of thankfulness and hope. With an abundance of water for agricultural and mining purposes, with the sure prospect of a most unprecedented emigration by the overland railroad, with an increase of railroad travel and traffic generally, with a great enlargement of coastwise and foreign commerce, and a corresponding increase in our manufacturing enterprises, to say nothing of the wonderful discoveries of new and rich mines, the proceeds from which are already pouring in upon us, there is no reason why California should not realize, during the coming season, a far greater and more general degree of prosperity than she has ever before enjoyed.

PROPORTION OF GOLD TO SILVER IN COMSTOCK ORES.—The State Mineralogist of Nevada in one of his reports publishes a table from which we collate the following figures, which probably show a very close approximation to the average amount in value, of gold and silver in the bullion from Comstock ores. The bullion taken from 5,162 tons of ore, from five of the principal mines, assayed with the following results;

Mine	Tons of ore crushed.	Proportionate value of Gold.	Silver.
Mexican	2,488	47.80	52.19
Savage	1,304	27.35	72.65
Potosi	133	25.84	74.16
Gould & Curry	440	24.63	75.37
Uncle Sam	827	32.12	67.88

The average value of the two metals in the ores above specified, is—gold 31.54, silver, 68.45; gold very nearly representing one-third and silver a little over two-thirds of the value of the bullion. This may doubtless be taken as a very fair statement of the proportionate value of gold and silver in the Comstock ores.

SUBTERRANEAN WATER-COURSES. — The celebrated French geologist, the Abbe Lombard, has lately discovered in the valley which separates Yvetol from Auzehose, France, a point where two sources of water cross each other at about thirty-five yards beneath the surface, which on boring have been found capable of furnishing nearly 300,000 gallons every twenty-four hours.

Concerning the Origin of the "Washoe Pan Process."

In our last week's issue our correspondent "J. S." stated that Captain Hatch was the man who blessed the country with the "Washoe pan process." "J. S." evidently considered this process as identical with the present common "pan process." The Washoe pan process consisted in a continuous amalgamation of the ore, the pulp running directly from the battery through a series of pans. This method of treating the ore in pans was called the Washoe pan process, and was introduced by Mr. Almarin B. Paul, in Gold Hill—who speaks for himself on the subject in another column. It has not the slightest similarity, as we are informed by others, whose judgment therefore stands in opposition to J. S., with the process of Captain Hatch, who simply tried, we believe, to apply the Patio process, in a modified manner, in pans,—which were in fact introduced before Mr. Hatch commenced to operate his process, the latter having had only a short existence.

In California the pan process was originally carried on in a simple iron flat bottomed pan, having stirring arms, to which shoes were here fastened exactly on the principle of the Mexican arastra. In both, the iron arastra, or pan, and the Mexican arastra, the ore was ground and amalgamated under a slow motion. The present pan process has surely little in common with the Mexican copper kettle boiling process, which is especially adapted to chlorides, iodides and bromides. Unless "J. S." can show, therefore, that the principle is the same, we shall have to agree with Mr. Paul that our present pan process is a material addition to the science and practice of metallurgy.

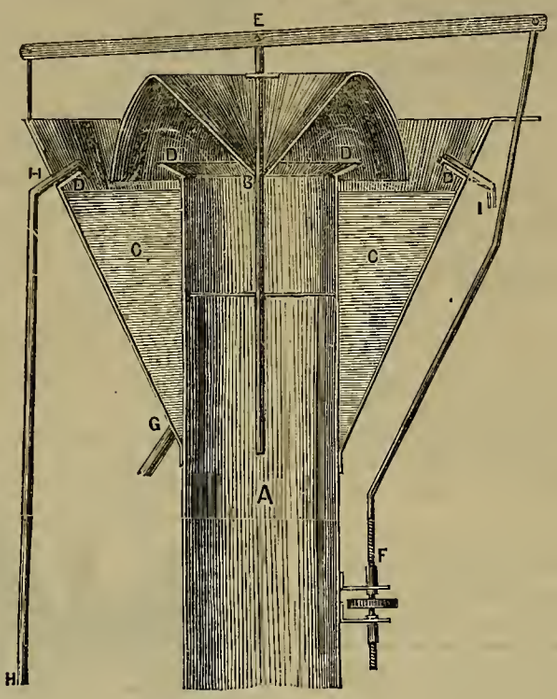
A Good Place for Emigrants.—It is said that in boring wells along the San Joaquin Valley, above Stockton, the augur in most places perforates through about forty feet of rich black soil, before coming to gravel! We question whether any of the Mississippi prairies or Texas bottoms can equal this. If a single acre of this soil could be spread out, it would cover a very respectable New England farm. The farmer who contemplates leaving the Eastern States for a western home, will make a sad mistake if he chooses a farm on the plains of Kansas or Nebraska, which are winter bound a large portion of the year, in preference to locating his family in the San Joaquin Valley, where a delightful climate awaits him, never visited by winter storms, and where a soil of unsurpassed richness can be found, suited to all the varied products of a semi-tropical climate, as well as affording a more abundant harvest of cereals than can be taken from any other land in the world. When the contemplated railroad is pushed out into this region, as it will be within one or two years, these lands will become very valuable. Now is the time to buy while moderate prices prevail.

A Magnificent Boulevard.—The city of Chicago has resolved upon the most magnificent Boulevard in the world. It is to be fifteen miles in length, covering an area of 2,000 acres, and will encircle the entire city. There is no city better situated for such an enterprise, and no municipality better able to execute such a resolve. Applications has been made for leave to borrow two millions at seven per cent. to start the enterprise.

The New Mint Building.—Work is to be commenced immediately on the new Mint building, at the corner of Fifth and Mission streets. The lot is a full 100-vara. Mr. W. P. C. Stebbins is superintendent of construction. He has advertised for proposals for excavating for the foundation.

Benn's Patent Smoke Stack.

We give herewith an illustration of an improved spark arrester, designed for use on locomotives, or other steam chimneys where danger or inconvenience may be apprehended from the issuance of lighted cinders. The subjoined illustration presents a sectional view of a smoke stack with the spark arrester attached. The letters C C, represent a conical shaped vessel, surrounding the upper portion of the smoke stack, and filled with water to a point near, its upper edge. The stack is surmounted by a hollow cone, in such a manner that while the apex enters the mouth of the same, the base is so bent back upon itself as to encircle the chimney, as shown in the engraving. This arrangement, as will be seen at D, D, causes the smoke to so impinge upon the surface of the water that the escaping cinders and dust are thereby arrested, while the smoke and gases rise from the surface of the water, and pass out into the open air. The cone may be readily elevated or depressed by turning the hand wheel F, which works the lever E. The tube H being connected with the water tank, is employed for filling the vessel C, C. The outlet I, prevents the overflowing of the vessel, while a faucet is placed at G, by which the accumulated cinders and ashes may be drawn off when found necessary. The device is certainly very simple, and if it should prove as effective as it appears to promise, it must be very desirable for threshing machines, and wherever else steam power is employed in the midst of highly combustible material. A patent was recently obtained for this invention through the Mining and Scientific Press Patent Agency. Mr. Benn is the inventor of several important improvements, which we may mention in future as occasion presents.



BENN'S PATENT SMOKE STACK.

Further information can be obtained by addressing Walter C. Benn, Stockton, Cal., or calling at Baker & Hamilton's, San Francisco.

Madden Mine, White Pine District. A letter was received in Sacramento, on Tuesday,—says the *State Capital Reporter*,—stating that a cut had been run ten feet into the Madden lead, reaching the vein about seven feet below the prospect hole; and that ore had been struck assaying $850 to the ton. The mine is owned by parties in San Francisco.

Mining and Scientific Press.—The Mining and Scientific Press, published at San Francisco by Dewey & Co., is one of the most valuable of our exchanges.

Miners, mechanics, and the reading public generally, will find its regular perusal profitable and interesting.

Its scope and purpose are expressed in the title, and we recommend miners and mechanics in particular to subscribe for it. Terms $5 per annum, in advance.—*Trinity Journal, March 13th.*

Fire at the California Brass Foundry. Messrs. Gallagher, Weed & Kingwell were unfortunate in having their brass works burned last Sunday night. Their loss is estimated at not less than $3,000, $1,800 of which was insured. Workmen are busy cleaning up and repairing, and business will soon be resumed. The finished work in the front part of the shop was not much damaged. By addition of some new and improved tools and machinery, they intend to be better prepared for work than ever before.

Returned.—Dr. J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

O. M Taylor, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office, without fail.

Photography.—For Cabinet Photographs, or Enameled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
10v18 6m B. F. Howland.

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At this season, when coughs and colds are so prevalent, an effectual remedy, and one easily obtained, is Perry Davis' Vegetable Pain Killer. It is no new nostrum, vended by unknown agents, but has stood the test of over twenty years, and those who use the article, internally or externally, will connect with it grateful recollections of its worthy inventor.—*Hastings' Chronicle, C. W.*

Pain Killer.—The testimonials borne to the efficacy of this valuable medicine are sufficient to warrant its introduction in every house. Our own opinion is that no family should be without a bottle of it for a single hour. In flesh wounds, aches, pains, sores, etc., it is the most effectual remedy we know of. A bottle will last for a very long time, and its low price places it within the reach of all.—*St. John News.*

☞ We are glad to learn that the "Pain Killer" is having so large a sale in our city. We have every reason to believe it to be an almost never failing cure for pain, and a medicine that no family should be without.—*Montreal Pilot.*

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NOTICE.

The above Company having been incorporated under the laws of the State of California, has opened a Subscription Book for subscribers to its Capital Stock, at

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CALCULATING AREAS—THE LABOR-SAVING METHOD.—The following, from an English engineer in the employ of the Syrian Government, we copy from *Engineering:*

Thinking that any plan for simplifying the rather tiresome calculations necessary for taking out areas, more especially when of curved or irregular surfaces, would be of service to engineers and surveyors, I take the liberty of laying the same at their disposal, so that others may profit by my suggestion, should they find it as useful as I have done.

So as not to be tedious by enumerating the difficulties at present experienced in calculating areas of irregular section, all of which my invention completely overcomes, I will at once proceed to describe the principles on which I have acted.

Principle.—Take paper of good manufacture (traciug or otherwise) and it will ho found that its substance is very accurately distributed; any one square inch weighing precisely the same as any other—even in common papers it varies but slightly. The thicker the paper for my purpose the better.

Example.—Required to find the area of any map.

The paper on which the map is drawn is first to be accurately squared, the area thereof computed in inches, and its weight accurately ascertained. Next proceed to cut out carefully all that portion the area of which is required, and weigh that also. Then as the weight of the whole is to the weight of the portion cut out, so are their respective areas.

Suppose the scale of map to he 20 miles = lin.; size of map, 20in. × 10in. = 200 square inches; weight of map, say 2,000 grains. Then if weight of piece cut out is 1,500 grains, the area of it will be 150 square inches or 300 square miles.

In cases where the plan or map is valuable and is not advisable to destroy it, a tracing of the part required has to he made, and the same process gone through for finding its area.

For iron sections, earthwork calculations, agricultural surveys, etc., it will he found most useful. J. L. HADDON,
Chief Engineer to the Syrian Government.
BEYROUT, Dec. 31st, 1868.

METALS—WHAT ARE THEY?—In relation to this query, a late uumber of the *Mechanic's Magazine* makes the following pertinent remarks: "Wo have no general definition of a metal to show us what const tutes any snbstauce metallic or nonmetallic. This is very odd, as metals aro considered to form such a distinct class from other suhstances. Besides, chemistry is held to be such a marvellously exact science. Still, the most learned in chemistry are not agreed as to what suhstances are metals. Some say 'silicium,' which is its name as a metal; others say 'silicon,' which is its name as a non-metallic suhstance. Then, some take into the list of metals arsenic and tellurium, and others reject them. There apparently is no property yet discovered that is common to the whole list of fifty-two metals. Some even go so far as to consider that a metal may he a compound of two gases, nitrogen and hydrogen. In fact, it is altogether uncertain what constitntes a metal, and what does not. The word metal, apparently, is just a name, without any distinctive and well-ascertained properties attached to it or understood hy it. It is hardly in agreement with the pretensions of onr chemists that there should he such looseness and uncertainty about the application of a name, and a namo of such importance, which represents such a common class of suhstances."

THE GARDEN OF CHINA—The Chinamen who walk over bridges hnilt 2,000 years ago, who cultivated cottou hefore this country was heard of, and who fed silk worms hefore King Solomon hnilt his throne, have 50,000 square miles around Shanghae, which they call the Gardeu of China, aud which have been tilled by countless generations. This area is as large as New York and Pennsylvania combined, and is all meadow, lakes, rivers, canals—a complete net-work of communication; the land under the highest tilth; three crops a year harvested; population so dense that, wherever you look, you see men and women in blue pants and blouse, so numerous that you fancy some fair or muster is coming off and all hands have turned out for a holiday.

NEW ILLUMINATING MATERIAL.—A new illuminating material, recently patented in Germany, consists of a mixture of two parts of the poorest rape seed oil and one part of good petroleum. It is hurned in a lamp of peculiar construction, but somewhat similar to that of the ordinary moderator lamp, and gives a light not to he surpassed for purity and hrilliancy.

THE ROYAL MINING ACADEMY IN BERLIN. As this Mining Academy is a scientific institution of the first rank in Germany, the following notice concerning it may be interesting to the scientific public: The lectures of the Mining Academy are arranged in such a manner that a student may finish the complete course in two years; the students also enjoy the privilege of inspecting the different Prussian mining and metallurgical establishments during the vacations, and besides several times yearly they have the opportunity of excursions to those establishments in company of the professors. The lectures of the present half year, commencing on the 2d of November last and ending on the 19th of March, 1869, treat of the following subjects:

1. Mining Technology — five lectures weekly by Bergrath Hauchecorne; half yearly.
2. Technology of Saltworks—one lecture weekly by Bergrath Hauchecorne; 3s. half yearly.
3. General Metallurgy — four lectures weekly by Professor Kerl; 12s. half yearly.
4. Metallurgy of Iron—four lectures weekly by Bergrath Wedding; 12s. half yearly.
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9. Assaying of Iron — three lectures weekly by Bergrath Weddiug; 13s. 6d. half yearly.
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11. Geology, with special attention to the Stratified Formations—four lectures weekly by Professor Beyrich; 12s. half yearly.
12. The Geological Formation of the Globe—one lecture weekly by Dr. Lossen; gratis.
13. On Volcanoes—one lecture weekly by Professor Roth; gratis.
14. Mineralogical Repetitions—four lectures weekly by Professor G. Rose; gratis.
15. Mineralogical Exercises—four lectures weekly by Dr. Eck; 12s. half yearly.
16. Chemistry of Minerals—three lectures weekly by Professor Rammelsberg; gratis.
17. Repetitions of Analysis of Minerals—four lectures weekly by Dr. Finkener; gratis.
18. Practical Instruction in the Analysis of Minerals—(*a*), quantitative; five hours daily by Dr. Finkener; £3 half yearly. (*b*), qualitative; four hours weekly by Dr. Finkener; £1 4s. half yearly.
19. Analytical Geometry—five lectures weekly by Professor Bertram; 15s. half yearly.
20. Mechanical Science — six lectures weekly by M. Hörmann; 18s. half yearly.
21. Applied Mechanics — six lectures weekly by M. Hörmann; 18s. half yearly.
22. Surveying of Mines—four lectures weekly by Berg-Assessor Kauth; 12s. half yearly.
23. Instructions in Drawing—eight lessons weekly by Berg-Assessor Kauth; gratis.
24. Law of Mines—two lectures weekly by Geh. Oberbergrath Ackenbach; gratis. *London Mining Journal.*

THOSE PROPHETS OF OLD!—How rich the following paragraph appears, which was originally printed in the *English Quarterly Review* in March, 1825: "We are not advocates for visionary projects that interfere with useful establishments. *We scout the idea of a railroad as impracticable!* What can be more palpably absurd and ridiculous than the prospects held out of locomotives traveling *twice as fast* as stage coaches! We should as soon expect the people of Woolwich to suffer themselves to be fired off upon one of Congreve's ricochet rockets, as to put themselves at the mercy of such a machine, going at such a rate."

GEOLOGICAL SURVEY.—The result of the geological survey, under Prof. Hayden, of the coal fields of Wyoming and Colorado, is being published at Washington. These coal fields cover thousands of acres, and are from five to fifteen feet in thickness. The Union Pacific Railroad runs through the best of them.

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REFERENCES.—Hon. Henry Dutton, President of Farmers' and Mechanics' Bank; Hon. Samuel Cowles, late Judge County Court, San Francisco; Hon. A. J. Gunnison, Attorney at Law, San Francisco; H J. Booth, Esq , Union Iron Works, San Francisco; Henry F. Williams, Esq , Real Estate, San Francisco; John O. Hanscom, Esq . Etna Iron Works, San Francisco; John H. O'Brien, Esq., of O'Brien, Bush & Co., San Francisco; Hon. J. P. Jones, Gold Hill, Nevada.

All communications should be addressed to the Secretary of the

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STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at **11** o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the **6th, 14th, 22d** and **30th** of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR MARCH, 1869.

The following Steamships will be dispatched on dates as given below:

March 10th—GOLDEN CITY.....Capt. W. F. Lapidge, Connecting with ALASKA, Capt. Gray.

March 18th—MONTANA.....Capt. E. S. Farnsworth, Connecting with RISING STAR, Capt. Connor.

March 30th—COLORADO.....Capt. Wm. H. Parker, Connecting with HENRY CHAUNCEY, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

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For passage, freight and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

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PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office, San Francisco.

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In lots to suit at regular wholesale rates.

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It Is Death to Fleas and Vermin, but not injurious to persons.

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Two convenient front rooms (No. 9 and 10) in second story of No. 423 Washington street, to let on favorable terms Apply at this office, up stairs. No. 414 Clay street.

Resources and Developments.

IMPROVED GRAPE GROWING.—The Sacramento *Bee* says that a new wine-making and grape-growing company has been organized in Sacramento, the object of which is, by the concentration of capital and ability, to make wine of superior quality at cheap rates; and to help redeem the disrepute into which we are likely to fall as vinters, because of the numerous parties who undertake to make wine without knowing the first rudiments of the business.

SAWMILLS WANTED.—The Los Angeles *News* says there is a great want of sawmills in the vicinity of the Soledad mines. There is timber in abundance, and a ready market for the lumber, and but little road-making needed.

IRRIGATING CANAL.—The Los Angeles *News* says that one of the most notable enterprises, looking to the development of that region, which has been recently undertaken, is an irrigating canal, now being constructed for the improvement of the San Pascal Rancho, by Mr. B. D. Wilson and Dr. J. S. Griffin. This tract of land consists of several thousand acres which will become very productive as soon as it can be furnished with water for irrigation. It is well calculated for vines, semi-tropical fruit or cereals. The *News* thinks this undertaking will do much by affording substantial evidence of what may be done in other similar situated localities. It expresses the opinion that millions of dollars might be added to the commerce and business of that county by a few other enterprises similar to this.

OLIVE TREES.—The Los Angeles *News* says two hundred thousand olive cuttings have been set out in Santa Barbara County the present season.

CASHMERE WOOL.—The Folsom *Telegraph* has a piece of wool from a Cashmere buck, the property of Oakley & Shirley, about one-quarter blood. The staple is about ten inches in length, exceedingly fine, and has a beautiful appearance. These gentlemen have a fine range in that county, and a large flock of goats. The wool is worth from a dollar and a half to five dollars, the price depending upon the length of the staple, some of it reaching twenty inches in length. The annual clip being about five pounds to the goat. The *Telegraph* thinks there is a fortune in prospect for enterprises of this kind.

WHEAT ON RED SOIL.—The Yreka *Union* says that Mr. Richardson, of Willow Creek, in that county has sowed some tough red soil with wheat as an experiment. It came up quicker and looks better than that sown on the black soil usually cultivated, but whether it will come on and mature properly is yet to be determined.

MULBERRY BUSINESS THRIVING.—The Nevada *Gazette* says the planting of mulberry trees in that section, with the ultimate view of raising silkworms and the production of silk, is increasing.

WALNUT TREES.—The Yolo *Democrat* says that in various parts of that county quite a number of walnut trees have been planted this season. Until recently there were but few trees of this species in the county. The oldest and largest, perhaps, is one planted several years ago by J. A. Price, at Cottonwood. The tree referred to is a thrifty nut-bearing and beautiful shade tree, the trunk of which is about twelve or fourteen inches in diameter.

A PLANTATION of 4,000 mulberry trees will be laid out shortly in Analy township, Sonoma county.

New Job Printing Firm.

In order to devote our attention more exclusively to the publication of our paper, and the business of our American and Foreign Patent Agency, we have disposed of the presses and job printing material, and fixtures, in our office—with the entire future good will and patronage of our JOB PRINTING OFFICE,—to George Spaulding and Harrison Barto. Messrs. Spaulding & Barto will continue the operation of the same, in our office, 414 Clay street, under the title of "The Mining and Scientific Press Job Printing Office."

Both of these gentlemen are practical printers of good attainments and enviable reputation. They have been long engaged in this office, and it is with pleasure that we can recommend them to the favor and patronage of all our old customers in the line of Job Printing. A. T. DEWEY.
W. B. EWER.

P. S.—This change relates to our job printing department alone, our patent agency and newspaper business remaining as before.

DEWEY & CO,
Mining and Scientific Press Office, 414 Clay street.
MARCH 1, 1869.

New Incorporations.

Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

ALBERMARLE MINING CO.—White Pine, Nev. March 20th, Capital stock, $1,200,000; 1,200 shares, $100 each. Trustees: Geo. O. Ecker, John Nightingale, Edward Chevessus, Geo. S. Ladd and Charles Keading.

MOUNT MORIAH S. M. CO.—White Pine, Nev. March 20th. Capital stock, $300,000; 6,000 shares, $50 each. Trustees: Carl Precht, Louis Cohn, D. W. Taylor, Thos. Ausbro and A. De Laud.

GRANT INVINCIBLE S. M. CO.—White Pine, Nev. Capital stock, $800,000; 8,000 shares, $100 each. Trustees: S. B. Whipple, C. W. Chase, A. Hayer, S. C. Burley and Theo. Reichart.

SILVER WAVE MINING CO.—White Pine, Nev. March 23d. Capital stock, $2,000,000; 20,000 shares, $100 each. Trustees: W. J. Williams, C. W. Fox, M. J. McDonald, W. N. Hawley and L. J. Lewis.

ALHAMBRA SILVER MINING CO.—White Pine, Nev. March 23d. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: F. P. Swett, Washington Ayer, M. D. Carr, A. J. Downer and I. G. Hoitt.

ESTELLA, No. 2, MINING CO.—White Pine, Nev. March 23d. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: A. K. Grim, R. J. Comfield, W. T. Fisher, A. K. P. Harmon and M. D. Ranm.

ALEXANDER SILVER MINING CO.—White Pine, Nev. March 23d. Capital stock, $1,000,000; shares, $150 each. Trustees: W. H. Sharp, W. Seligsberg, A. C. Franklin, M. Byrne and J. Greenbaum.

SILVER KEY BORING AND MINING CO.—White Pine, Nev. March 23d. Capital stock, $600,000; 6,000 shares, $100 each. Trustees: W. H. Bruner, E. A. Pool, R. A. Hawkins, Geo. S. Evans and J. M. Buffington.

LA BELLE MINING CO—White Pine, Nev. March 23d. Capital stock, $500,000; 25,000 shares, $20 each. Trustees: W. H. Brown, R. R. Swain, William Irelan, W. S. Thompson and J. A. Hall.

SOMERVILLE SILVER LEDGE AND MINING CO.—White Pine, Nev. March 23d. Capital stock, $140,000; 2,800 shares, $50 each. Trustees: James Jewett, W. H. Tahor, P. H. Moses, B. J. Astler and Chilion Beacb.

RAILROAD AVENUE EXTENSION HOMESTEAD ASSOCIATION.—San Francisco. March 23d. Capital stock, $38,760; 102 shares, $380 each. Trustees: W. J. Gurra, Chas. F. Brown, W. Everson, O. B. Huff and R. W. Gluyas.

FLORENCE MINE AND TUNNEL CO.—White Pine, Nev. March 24th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: L. P. Rankin, F. F. Low, A. P. Hotaling, N. B. Stone and Warring Wilkinson.

CALIFORNIA MARINE PAINT CO.—San Francisco. March 24th. Trustees: Lloyd Tevis, James Pollock, Lathrop L. Bullock, Scott Tidhall and Thos. A. Talbert.

IMPERIAL MINING CO.—White Pine, Nev. March 25th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: Lewis Cook, H. H. Schaefer, J. H. H. Williams, O. V. Sawyer and G. B. Merrill.

SILVER STAR SILVER MINING CO.—White Pine, Nev. March 25th. Capital stock, $1,000,000. Trustees: H. A. Deming, Jno. H. Tobenboske, J. W. Littlefield, H. P. Burr and E. E. Harvey.

GREAT REPUBLIC MINING CO.—White Pine, Nev. March 25th. Capital stock, $1,000,000. Trustees, same as Silver Star Co.

SILVER CROWN S. M. CO.—White Pine, Nev. March 25th. Capital stock, $1,000,000. Trustees, same as Silver Star Co.

EUREKA S. M. CO.—White Pine, Nev. March 25th. Capital stock, $1,000,000. Trustees, same as Silver Star.

BAY PARK HOMESTEAD ASSOCIATION.—San Francisco. March 23d. Capital stock, $117,000; 325 shares, $360 each. Trustees: A. S. Gould, F. B. Wilde, J. Riudleberger, C. E. Dunshee, W. A. Woodward, H. F. Williams and J. W. McKenzie.

ORLEANS MINING CO.—Nevada County. March 20th. Capital stock, $500,000; 5,000 shares, $100 each. Trustees: J. P. Pierce, A. Delano and E. L. Tuttle.

LATAWANA MINING CO.—White Pine, Nev. March 25th. Capital stock, $192,000; 1,020 shares, $100 each. Trustees: J. A. Drinkhouse, E. W. McKinstry, Geo. Pratt, Thos. J. Poulterer, John H. Wise, N. Hayes and R. Savage.

ELECTION OF OFFICERS.—CONSOLIDATED CHLORIDE FLAT M. CO.—White Pine, Nev. March 24th. Trustees, A. Huyward, Thos. Bell, A. E. Head, J. D. Fry, W. B. Thomburg; President, J. D. Fry; Secretary, Chas. E. Elliott.

DAVE WILLIAMSON TUNNEL AND M. CO. White Pine, Nev. March 25th. President, Geo. S. Evans; Secretary, Wm. S. Ustick; Engineer, D. Wilson.

LATAWANA M. CO.—White Pino, Nev. March 25th. President, J. H. Wiso, Treasurer, J. A. Drinkhouse; Secretary, A. Martinon; Superintendent, R. Savage.

TO TEST FLOUR.—Place a small quantity in the palm of the left hand and rub it gently with a finger of the right. If it feels very smooth, silky and slippery, it is of inferior quality, though ever so white. It is badly ground and made from damaged wheat, or perhaps containing too much gluten. But if it feels a little rough on being rubbed, and has a slight orange tint, you can depend with much confidence on its being a good article and one that will make excellent and nutritious bread.

New Mining Advertisements.

Pacific Coal Mining Company, Contra Costa County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of March, 1869, an assessment of four dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary

Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventeenth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. LACHMAN, Secretary.
Office, southeast corner Market and First streets, San Francisco. mar27

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINOARD, Secretary.
Office, 408 California street, San Francisco mar27

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINOARD, Secretary.
Office, 408 California street, San Francisco. mar27

Mining Notices--Continued.

Cordillera Gold and Silver Mining Company.— Morelos District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twentieth (20th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the tenth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary.
Office, 321 Washington street, San Francisco. mar20

Glenwood Mill and Mining Company, Green- wood, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of February, 1869, an assessment of twenty-five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, Room 11, No. 434 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the second day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WILLIAM VALE, Secretary.
Office, 434 California street, San Francisco. feb27

Lyon Mill and Mining Company, Kelsey Dis- trict, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of March, 1869, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the sixth (6th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of April, 1869 to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
Office, Room 37 New Merchants' Exchange, California street, San Francisco. mar13

I. X. L. Gold and Silver Mining Company.— Location of Mine: Silver Mountain District, Alpine County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the nineteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
John A Johnson	283	1	$1 50
J S Adams	23	5	7 50
J S Adams	325	2	3 00
J S S Sabiners	322	5	7 50
Mary C Bridges	360	12½	18 75
Catherine Jones	144	30	45 00
Catherine Jones	155	17	25 50
Catherine Jones	238	5	7 50
T B Clark	375	10	15 00
T B Clark	386	22½	33 75
E M Long	334	10	15 00
C Goodell	248	15	22 50
C Goodell	362	5	7 50
Wm Davidson	340	5	7 50
Wm Davidson	74	¼	75
Ann Hogan	176	7	10 50
Charles Fisk	150	5	7 50
W J Thomas	371	3	4 50
Daniel H Dickinson	294	10	15 00
Daniel H Dicklnson	359	10	15 00
L E Wahlburg	247	5	7 50
Henry Jardine	188	5	7 50
Henry Jardine	304	3	4 50
Henry Jardine	330	12½	18 75
Henry Jardine	331	5	7 50
Henry Jardine	334	15	22 50
Hepburn James	116	5	7 50
Hepburn James	158	5	7 50
Hepburn James	247	10	15 00
A Wagner	207	5	7 50
Chas Saunders	224	5	7 50
Caroline A Nelson	293	2	3 00
George Broste	229	10	15 00
James Wylett	231	5	7 50
H T Bjiske	341	4¾	6 40
Louis Rindling	277	28	42 00
John G Shivin	254	1	1 50
Henry Eno	301	3	4 50
Henry Eno	307	7½	11 25
E F Gibson	270	12	18 00
E F Gibson	271	12	18 00
E F Gibson	274	5	7 50
E F Gibson	302	3	4 50
Wm Jones	246	3	4 50
John Calnes	249	70	105 00
John Bolts	281	10	15 00
John Bolts	256	8	12 00
D C Riddle	258	5	7 50
Julius Zabel	259	5	7 50
T D Scott	260	5	7 50
J A McMahon	263	7	10 50
R K Love	275	5	7 50
R K Love	303	4	6 00
R K Love	329	12	18 00
R K Love	342	5	7 50
L Wechelhausen	281	4	6 00
Wm West	352	5	7 50
N Graff	347	¼	25
R S Cutter	366	3½	5 75
R S Cutter	384	10	15 00
E Ekelund	362	3	4 50
E Ekelund	364	2	3 00
Philip Myers	370	3	5 10
M Long	385	22 7-16	33 60

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Wednesday, the seventeenth day of March, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. CROWNINSHIELD, Secretary.
Office, Pioneer Hall, Montgomery street, up stairs, San Francisco, mar6

POSTPONEMENT.—The above sale is hereby postponed until Monday, the fifth day of April, 1869, at the same hour and place. By order of the Board of Trustees.

mar29 J. CROWNINSHIELD, Secretary.

North American Wood Preserving Company. Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the twelfth day of March, 1869, an assessment of one ($1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 430 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourteenth (14th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the first day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.
Office, 430 Montgomery street, San Francisco mar13

Mount Tenabo Silver Mining Company.—Lo- cation of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of January, 1869, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 426 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth (5th) day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirtieth (30th) day of March, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N VAN BRUNT, Secretary.
Office 426 Montgomery street, San Francisco. jan30

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until the second day of April, 1869, and the sale thereof until Tuesday, the twenty seventh day of April, 1869. By order of the Board of Trustees.

mar6 R. N. VAN BRUNT, Secretary.

Star Creek Mining Company.—Location: Star District, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of February, 1869, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary at San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-ninth day of March, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HORACE MORRISON, Secretary.
Office, N. E. cor. Front and Jackson streets.

Troy Ledge Mining Company, White Pine District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary

Any stock upon which said assessment shall remain unpaid on Friday, the twenty-third day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M BUFFINGTON, Secretary.
Office, 37 New Merchants' Exchange, California street, San Francisco. mar20

Machinery.

VARNEY'S
PATENT AMALGAMATOR,

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setters for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

ELLERY'S PATENT
India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,

Iron, Brick and Wooden Buildings,

SHIPS, STEAMBOATS, STAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

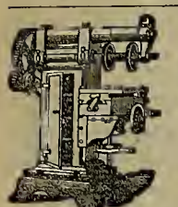
New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

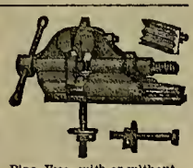
GEO. T. BROMLEY, Agent,

Battery street, corner Jackson,

24v17-3m San Francisco.



Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y O. H. NOTT, Pres.

BLAKE'S QUARTZ BREAKER!
PRICES REDUCED!
MACHINES OF ALL SIZES FOR SALE

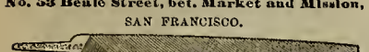
—BY—

WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

PACIFIC FILE WORKS,
No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**

Removal.
NELSON & DOBLE,
AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,
Etc., Shear, Spring, German, Plow, Blistor and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

10v14qr

MACHINERY AGENCY.
W. O. M. BERRY & CO.,
Are the manufacturers' agents for Richardson, Merriam & Co's celebrated
Wood Working Machinery,
Embracing every description of Planers, Matchers and Mortisers, Moulding, Tenoning, Boring, Shaping, Vertical and Circular Re-sawing Machines; scroll, Railway, Cut-off and Rip Saws, etc., etc. Agents for the Swamscot Co's
Improved Portable Engines,

Warranted fully equal to any in the market; Davis & Furber's Woolen Machinery; Blake's Patent Steam Pumps; Kilburn's and Warren's Turbine Water wheels, etc, etc.

Orders for Machinery of any kind will receive prompt attention. Machines for special purposes built to order. Send for Illustrated Catalogue. W. O. M. BERRY & CO.

8v18-3m 114 California st., San Francisco.

Notice to Miners,
Well-Borers and Water Companies,

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 1 Clay street, below Davis.

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Blacksmith and Machine Shop,
143 Beale St., bet. Mission and Howard,

SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted.

21v17-qy **J. WEICHHART, Proprietor.**

PATENT
Boiler Scraper and Tube-Cleaner.

IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. H., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

BLAKE'S PATENT

STEAM PUMP!

This Pump is warranted superior to any in the market, for Breweries, Sugar Houses, Tanneries, Boiler-Feeders, Steamboats, Mining and Fire purposes, etc. It throws a full stream of the thickest beer mash without clogging, and will even boiling hot without difficulty.

Warranted a positive Pump under ALL circumstances; it never stops nor gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

☞ If one fails to do the work for which it is sold, it may be returned and the money will be refunded. May be seen in operation at Risdon's, or Union Iron Works, or at

W. O. M. BERRY & CO'S,

Agents for Pacific States,

8v18-3m 114 California street, San Francisco.

GLASGOW
Iron and Metal Importing Company
Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

The Perfection of Prepared Cocoa.

MARAVILLA COCOA.

Sole Proprietors—TAYLOR BROTHERS, London.

The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skilful application of their soluable principle and elaborate machinery, produced what is so undeniably the perfection of Prepared Cocoa, that it has not only secured the preference of homœopaths and cocoa-drinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.

"A SUCCESS UNPRECEDENTED."

[See following extract from the Globe of May 14, 1868.]

"Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adopting their perfect system of preparation to this finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.

Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.

6v18-1y

Our Patent Agency.

The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be overrated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's tariff on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must settle them selves settle the same.

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15v12-3m SAN FRANCISCO.

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(SUCCESSOR TO O. OOM)
MARBLE WORKS,
No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs

Etc., On hand and Manufactured to order.

☞ Ooods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,
(Over W. T. Garratt's Brass Foundry,

S. E. Corner of Mission and Fremont sts.,

6v14tf SAN FRANCISCO.

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SEAL ENGRAVER,
AND LETTER CUTTER,

Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.

6v16

DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,
Manufacturers of all kinds of
Desks and Office Furniture,
717 Market street, near Third.

Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

THE GOLDEN ERA.

Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family Journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

THE GOLDEN ERA

Is the most universally popular of all the Weekly Journals. It presents forty-eight columns, containing the greatest possible variety of Valuable and Entertaining, Original and Selected matter. It is a welcome guest in Cottage and Cabin; the favorite at the fireside in city and country; the most useful, agreeable and altogether desirable publication for California readers and their kindred and friends in the Atlantic States, Europe and elsewhere. Every household in the mountains and valleys, the cities, towns and mining camps of California, and throughout the Pacific States and Territories, should receive and welcome THE GOLDEN ERA as a regular weekly visitor. Inspired with the genius of the age, it is progressive, and aims not so much at distinction as a newspaper, as at honorable success in its capacity of a great Moralizing and Improving Influence, Exercising a positive power for good, and wielding a permanent influence, many able and eminent writers choose its columns as a means of communicating with the public. No effort will be spared to make it a thoroughly California newspaper, and worthy of the support of all classes of our citizens.

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WM. H. TOBEY & CO.,
RAILROAD ADVERTISING AGENCY,
641 Market street,

Between Second and Third streets (up stairs).

FRAMES, CARDS, CIRCULARS, POSTERS,

Etc., put up in all the Cars and Depots of the San Francisco and San Jose Railroad.

Advertise your Business for the Country Trade

4v18tf

MECHANICAL AND ARCHITECTURAL
Drawing School
—FOR—
APPRENTICES.

MR. FREDERICK HELLERT,

An experienced Draughtsman and Teacher, has opened an Evening School at No. **414** CLAY STREET (same entrance as the Mining and Scientific Press Office), where he is giving thorough instructions in DRAWING to apprentices who are inclined to self-improvement. His terms are moderate and within reach of the humblest apprentice; and we are pleased to say that the enterprise is meeting with success.

1v18.tf

From the Foot Hills and Mines.

We obtain the following items from notes sent us by our agent W. H. M.:

CENTRAL PACIFIC RAILROAD.

The trains that leave Sacramento now consist usually of four passenger cars, which are taken up to the summit by two engines. The cars are well filled, about half of the men being bound for White Pine. Some women, with dogs and cats, were also noticed, who procured tickets for Elko.

AT AUBURN,

Placer county, the Green Emigrant mine, Capt. C. Lind superintendent, has been at a stand still for six weeks, being filled up with water. There is a mill, and forty or fifty holes are dug into the hill, not built over by sheds. Very good rock has been struck, but no ledge yet found well enough defined to warrant the putting up of hoisting works.

AT GRASS VALLEY

Frank Morris has put a fine 8-stamp water power mill on Wolf creek. It can be run for $25 less than a steam mill, and has plenty of ore to crush. He uses eight of Knox's old pans. There are 45 men employed in the mill and mine belonging to the same parties, the latter producing 400 tons per month, from a depth of 150 feet, assaying $25 to $30 to the ton, the ledge being 18 inches wide.

The Allison Ranch mine will start up again early in the spring.

At the Young America mill and mine, two miles from Grass Valley, there are 22 men, all Irishmen, working on shares, getting ten per cent of what is taken out, the contract lasting for several years longer. The boys are striving hard to make it pay well.

At the North Star mine or French lead some gold quartz is produced of a good enough quality for breastpins, and which is sold for that purpose. The pumping apparatus of this mine was made at M. C. Taylor's Foundry, Grass Valley, and cost $30,000. The miners are required to change their clothing on coming out, to prevent peculation. Wood is getting scarce and has to be hauled from three to six miles.

Idaho Correspondence.

MINING.

EDITORS PRESS: I have before spoken of the Varieties lodo of Yuha District, Alturas County. Seven pounds of ore from that lode was assayed and run into a bar of gold value $15, being $4,285.71 per ton. The owners are Wm. Clemens and J. B. Barnhart, and the above was tested by J. D. Heath, and assayed and run into bar by Prof. Liebnaud, of First National Bank of Idaho. In spite of winter weather, every company there is making active preparations for work this summer, with firm confidence in the future of Yuba.

THE BOISE VALLEY WATER DITCH

is so far completed that the Superintendent, Mr. J. B. Walling, purposes to turn in a head of water on Monday next, and our citizens are planting out fruit and shade trees and gardens, so that we shall present a more cheerful appearance than heretofore.

THE FARMERS

are making preparations for larger crops than ever before, and in spite of the cry of hard times, every one looks forward with hope. PEGASUS.

Boise City, I. T., March 19th, 1869.

THE LONDON UNDERGROUND RAILWAY.

Over this road runs a train every three minutes during the business part of the day. The constant use of the electric telegraph prevents the possibility of any collision. Thirteen millions of passengers have been carried over this road in six months. No smoke is given out by the engines in the tunnel. The steam is got up to 130 or 140 pounds pressure at the starting point, where the line is open, and when the train enters the covered way the damper is closed and combustion is practically prevented. The engine then continues to run on the steam already made so long as it is in the covered way, the pressure being generally lowered to eighty pounds when it emerges again into the open cut. The steam, instead of escaping into the tunnel, is conveyed by pipes to a condousing tank, which is filled with cold water at each end of the journey. Four carriages are usually run in a train. They weigh about fourteen tons when empty. The speed is usually fifteen miles an hour, including stoppages.

PATENT OFFICE FACTS.—The Secretary of the Interior, in his annual report to Congress, states that during the year ending September 30, 1868, there were 20,112 applications for patents; 14,153 patents (including reissues and designs) were issued; 1,692 applications allowed on which patents did not issue owing to the non-payment of the final fee; 3,789 caveats filed; 180 applications for the extension of patents received, of which 133 were granted. The receipts were $696,786, being $171 less than the expenditures. The Secretary also renews his former suggestion in favor of repealing so much of the law as allows an appeal from the decisions of the Commissioner on application for letters patent and in interference cases, and respectfully refers to the views on the subject presented in his former reports.

Heretofore the Judges of the Supreme Court have been paid a fee of $25 in each and every case of appeal from the Commissioner of Patents. Hon. Elisha Foote has come to the conclusion that such payments are illegal, and has discontinued the same, so that now until some legislation is had in the matter by Congress, no fee will be required for an appeal to the Judges of the Supreme Court.

STYPTIC PAPER.—A French recipe for preparing paper to be carried in the pocket for application to small wounds to arrest hemorrhage, is as follows: A mixture of one pound of gum benzoin, one pound of alum, and four and one-third gallons of water is to be kept boiling for four hours, and skimmed from time to time. The water evaporated is to be replaced by the same quantity of fresh water, and, as soon as the solution is cooled, it is to be filtered off. The paper is then dipped into it, kept there until saturated, and then dried. When dry, a solution of the perchloride is applied by a brush. The paper is folded up and preserved from the action of the air in a piece of waterproof taffeta.

MOSQUITOS, FLIES, ANTS, ETC.—F. Jager, a German traveler in the East, says: "A tincture prepared by macerating one part of pyrethrum roseum in four parts of diluted alcohol, and when diluted with ten times its bulk of water, applied to any part of the body, gives perfect security against all vermin. I often passed the night in my boat on the ill-reputed rivers of Siam without any other cover, even without the netting, and experienced not the slightest inconvenience. The 'buzzing' at other times so great a disturber of sleep, becomes a harmless tune, and, in the feeling of security, a real cradle song. In the chase, moistening the beard and hands protects the hunter against flies for at least twelve hours, even in spite of the largely increased transpiration due to the climate."

MILD WINTERS.—The past winter has been mild in Europe as well as upon our own continent; and the "fact" hunters state that in 1822, 1807 and 1791, the temperature was as unusually warm as it is this year; that in 1692 the Germans never lighted their stoves; that 1617, 1612, 1607 were likewise wonderfully mild; that in 1538 the gardens were full of flowers in the month of January; that in January, 1421, cherries ripened, and grapes in May; and that in 1172 the trees were covered with leaves, flowers bloomed, and birds built their nests, while the little ones fledged in the mouth of February.

CALIFORNIA
BUSINESS UNIVERSITY,
204 Montgomery Street.

Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
17v17-qy12p E. P. HEALD, San Francisco.

OCCIDENTAL
Insurance Company,
OF SAN FRANCISCO.

Cash Capital, - - - - - - - $200,000
GOLD COIN.

Office S. W. corner of Montgomery and California streets.

Fire and Marine Insurance.

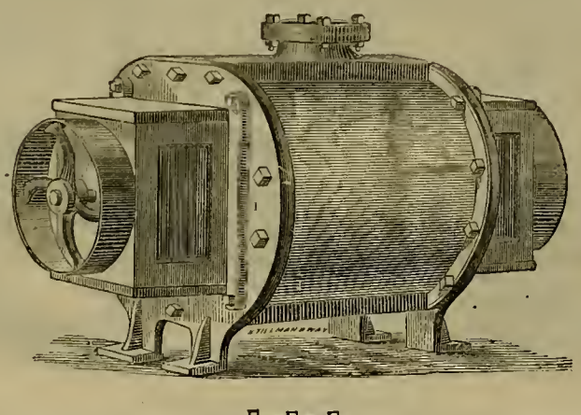
All Losses paid in U. S. Gold Coin.
CHR. CHRISTIANSEN, President.
B. ROTHSCHILD, Secretary. 20v17-3m

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

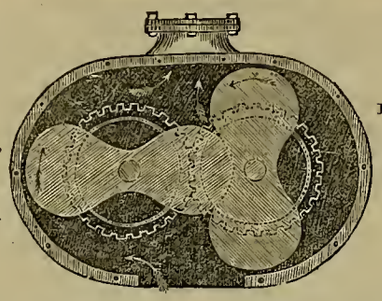
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1860; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR Smelting, Foundry, Mining and Steamships.



REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

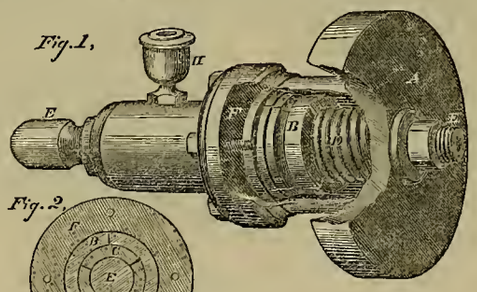
One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP & BARGION,
4v16 3m Globe Iron Works, Stockton, Cal.

COLLIER & SILLIMAN'S
METALLIC PRESSURE PISTON ROD PACKING.



This invention relates to the packing used to render piston rods or propeller shafts steam and water tight, and has for its object the construction of a metallic packing, which shall be operated upon by gas, the vapor or liquid exerting the pressure, in such a manner as to form a perfectly tight joint. It also consists in so forming the gland of the stuffing box, that it shall serve as a support and guide for the rod and shaft, and at the same time afford great facility for lubrication.

Two small openings now connect the interior of the cage with the source of pressure—as the cylinder in an engine or pump, or the water outside of the ship if it is for a propeller shaft—so that the greater the pressure the closer are the rings forced against the rod and inner face of the gland. In any case the Packing is to be applied to a water or air pump, so that the pressure will come from the liquid or the gaseous substance, as the case may be. One of the most important uses of this Packing is in the stuffing boxes of propeller shafts, in which case the openings connect with the outside water, the pressure on the rings depending upon the depth to which the shaft is submerged. This device is simple, and not easily got out of repair; is perfectly efficacious and self-regulating, and in the case of shafts, especially, will do away with the great expense of repairing the derangements of the stuffing box which now so frequently occur. This new invention has already been adopted on the Central Pacific Railroad and by some of the principal Flouring Mills in San Francisco and Sacramento, and is growing at once into popular favor. A description of the engraving accompanying this will be found in the *Mining and Scientific Press* Jan. 9, 1869, and in the patentees' circular, which can be had free on application.

Certificates of Recommendation:

OFFICE C. P. R. R. CO. OF CAL., Sacramento, Nov. 24, 1868.—*To Whom it may Concern:*—This Company has made a thorough practical test of Collier & Silliman's Patent Metallic Rod Packing, and find it a superior mode of packing to any other in use, and accordingly recommend it to all others interested.
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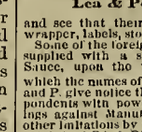

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New Patents Issued to Pacific Coast Inventors.

FOR THE WEEK ENDING FEBRUARY 23d.

87,132.—IMPROVED AMALGAMATED PLATE FOR COLLECTING GOLD AND SILVER.—Melville Attwood and John Roach, San Francisco, Cal.:

1. I claim zinc amalgam for coating metal surfaces, substituting the same for amalgamated copper for collecting precious metals, substantially as described.

2. The application of mercury to metals covered with zinc, substantially as and for the purposes herein described.

If successful, this invention will prove one of immense importance in the production of the precious metals, both cheapening and greatly extending the use of amalgamated plates. We shall speak of it again.

87,222.—IMPROVEMENT IN STEAM ENGINE LUBRICATORS.—George W. Teasdale, Lexington, Cal.:

1. I claim in combination with the globe A, the tube B, extending to near the top, and the screw E, for regulating the supply, substantially as herein described.

2. The supply-passage H, together with the float J, and stem K, for closing the passage and indicating the quantity introduced, substantially as herein described.

3. The passage C, and cock D, when arranged in relation to the above, as herein described.

This relates to that class of oil cups from which the lubricant is introduced to the cylinder, or other point of application, against the pressure of steam, and also to such as should furnish a constant supply of oil; and it consists in so constructing the globe that after it has been filled with oil or tallow, it will allow a small quantity to pass continuously to the point where it is needed, till it is all exhausted. This is effected by constructing the globe with a discharge pipe passing through the bottom to the point of delivery and rising within it to near the top. The steam rises through this pipe, and a small portion is constantly being condensed. This condensed water, by its greater gravity, sinks to the bottom of the globe, and thus raises the oil so that it flows down the tube and supplies a small quantity continuously till the globe is full of water and the oil or tallow exhausted. The water is then drawn off by a cock at the bottom, and the globe again filled with oil. A small float is so arranged in the upper part, that when the globe is full, it rises and closes the supply tube, and shows that enough has been introduced, after which the process goes on as before.

87,168.—EXCAVATING MACHINE.—Peter W. Hamel, San Francisco, Cal.:

I claim the roof R, over the working end of the conveying buckets, to protect them from land slides, substantially as described.

This is an improved excavator or digging engine, designed to work in sand or light earth, constructed so as to be removable on rails, and having buckets similar to our ordinary dredging machines, but so arranged as to work continuously. It has also a roof or covering over the working end, to protect the buckets from the effects of slides and a consequent clogging or stoppage of the whole machinery.

The following will be published with claims and notices on receipt of patents:

FEBRUARY 16th.

86,898.—WASHING FLUIDS.—James Bell, of Sonora, Tuolumne Co. Cal.

86,931.—WINDING RATCHET.—For Timepieces.—Wm. H. Lamb, San Francisco.

86,932.—BRICK ELEVATOR.—Thomas Mann, San Francisco. Ante-dated Feb. 1, 1869.

87,020.—MOTIVE POWER FOR SEWING AND OTHER MACHINES.—Jacob Zuckerman, San Francisco.

87,077.—ELEVATED RAILWAY.—William A. Sutton, New York, and Eugene Crowell, San Francisco.

87,082.—FOLDING CARD GLOBE.—Dennis Townsend, Fiddletown, Cal.

MARCH 2d.

FOLDING SEAT FOR STREET CARS.—Charles H. Foster, San Francisco.

PROCESS OF WORKING SILVER ORES.—Henry Jauin, Virginia City, Nev.

HORSE-SHOE.—William Rickie, Stockton, Cal.

OSCILLATING ENGINE.—Horace Bartine Martin, San Francisco.

BOOT DETACHING APPARATUS.—E. Wakeman, Brooklyn, Cal.

PROJECTILES.—R. H. Jones, San Francisco. Ante-dated Feb. 21st.

APPARATUS FOR CONCENTRATING METALLIC ORES.—Zenas Wheeler, San Francisco.

BOOT DESIGNS.—Amelia Straing, Oakland, Cal.

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AWARDED BY THE

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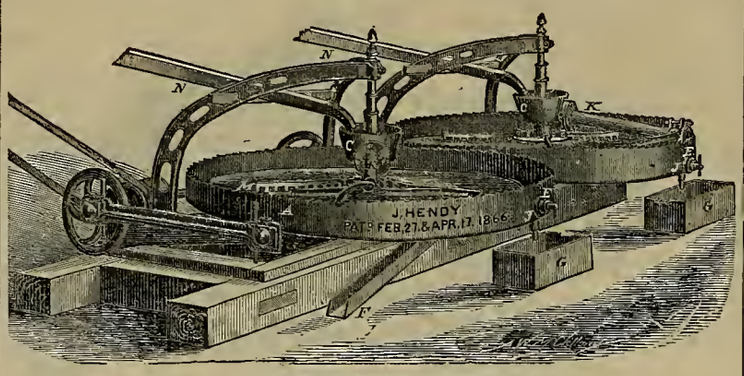
ALSO AT THE STATE FAIR FOR 1868,

To J. HENDY.



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Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.

Office at Union Iron Works.

13v17tf

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A caveat is a description of the invention designed to be patented, lodged in the Patent Office before the patent is applied for, and while the inventor is perfecting his design. When *properly* made, it operates as a bar to applications respecting the same invention from any other quarter; but when improperly done, it is inoperative by reason of such defect. The Patent Office always returns a receipt for caveat papers, but does not seek to point out its incorrectness, unless there be some glaring defect.

Our fee for a caveat varies from $10 to $15. The Government fee is $10.

What Claims can be Patented?

A knowledge of Ancient and Modern Mechanics and familiarity with American and Foreign patent issues and rejections, enables us to determine in a measure in all cases what can be patented, and how much can be claimed as new and novel, and be covered by Letters Patent. This is one of the most difficult questions encountered by both old and new inventors—one in which an experienced counsel is of great service.

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We draw up legal assignments for patentees; record assignments in the Patent Office; procure copies of United States and foreign patents; make examinations here and at Washington regarding the patentability of inventions; take up and prosecute rejected cases, depending upon success for our fees; reissues taken out; interferences prosecuted—in fact, every legitimate branch of the patent agency business is thoroughly conducted by us here and our branch agency in Washington.

California inventors should beware of placing their inventions and money in the hands of persons not well known as honest, responsible and capable.

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We have the only complete set of U. S. Patent Office Reports (from 1844) on this coast; a full record of all patents issued since 1790; Record of British patents from 1801 to 1845, and full files of scientific papers containing illustrations and list of U. S. Patent Claims, forming the only extensive library of patent works west of the Rocky Mountains. We offer patentees and inventors the free use of these books at our office. The files of the MINING AND SCIENTIFIC PRESS contain the claims of the Pacific Coast Patents, and many illustrated descriptions of the same. We have also in our office *full copies* of a large majority of the patent cases emanating on the Pacific Coast.

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SAN FRANCISCO, SATURDAY, APRIL 3, 1869.

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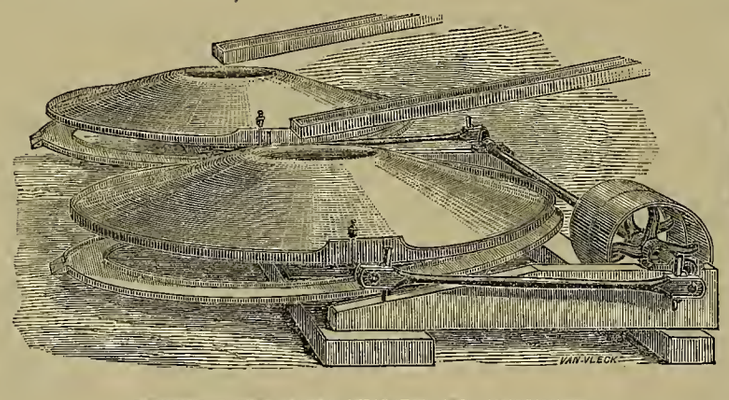
THE SHADY SIDE of this week's White Pine history, as it develops itself, may be summed up in a growing distrust of wild-cat, and in doubts of continued very rich yields from the renowned deposits of the district. Wild-cat is very innocent as yet, so little work having been done that the evil nature of the beast has not become apparent. Two hundred millions of capital stock to several hundred of actual working miners in our "mountain of solid silver;" the weekly and monthly bullion product, as stated in another column, noted in comparison; and the fact that companies consider themselves dealing in millions when the workings are but very shallow, and the ground unexplored in the regular mining sense, are facts not to be overlooked by the excitable. Where the ore occurs in seams and pockets, and is so liable to run out, it is not strange that there should be a disposition to sell out, with fine imaginative colorings thrown in gratis to accompany beautifully executed stock certificates, rather than to strike the pick at one blow through a promising vision into hard realities and underground sterility. One correspondent "understands" that the Eberhardt is getting poorer every day. The fact, if it prove a fact, characteristic of that region (as is quite possible), that silver quartz does not run very definitely in ledges, but that the laws of veins are so modified by the intangible and broken-up character of limestone as to prevent all systematic pursuit of the ore, will decide merely that we shall have to expect White Pine to be a field for "luck," rather than for solid work for some little time to come, until White Piners shall have more thoroughly learned to read the method and manner of the distribution of the vein matter which is interesting to them—quartz, spar and chloride, or the sulphide mineralizers of silver which take the form of carbonates at the surface.

"What bothers me," writes a White Piner, "is to know what one-tenth part of the people who are coming here will do. When you come to speak seriously with those who are deeply interested here, they will generally admit that they are going to make somebody pay for their time, and they say it will last one or two years."

We might quote a great deal of matter unfavorable to White Pine, but it is generally expressed in a style of conclusion evidently premature. The Reno *Crescent* points significantly to the actual bullion product of the Eberhardt, and candidly expresses the belief that "White Pine is not a region that will ever exhibit extensive mining operations."

Johnson's Patent Batea Separator and Amalgamator.

All experienced millmen know that the principal waste in milling gold and silver ores is from the loss of granulated or powdered mercury, and the gold and silver that is carries off with it, in an amalgamated state. A common wet-battery may be considered a perfect amalgamator. The mercury put into the same is, by the action of the stamps, kept in a constant spray throughout the battery; all the gold, no matter how fine, is amalgamated almost as soon as it is liberated from the rock. The same may be said of the pan and barrel process. But the sulphurets contained in the rock, and the wear of metallic iron, whether in shoes, dies, or the grinding surface of iron upon iron, as in pans, corrupts the mercury and coats it with a film of iron or other extraneous matter. When the



JOHNSON'S PATENT BATEA SEPARATOR AND AMALGAMATOR.

mercury, so coated, comes in contact with stamps, or is subjected to any arbitrary friction, it is divided and subdivided into minute particles, each one assuming a globular form, until it becomes so fine that it will float upon the surface of even placid water; but a slight agitation will precipitate it to the bottom, with the other heavier metals. The chief object sought to be gained by the different sulphuret concentrating machines now in use, is to collect the powdered mercury *with* the sulphurets, and pass off the lighter and useless sands. By this process the separation of the precious from the base metals is incomplete; as the sulphurets carrying with them the powdered mercury have to be subjected to a further separating process before the object sought is attained, and at a cost for labor and machinery which, oftentimes, only high grade ores will justify.

In Johnson's separating machine it is claimed that the desideratum of saving the powdered mercury is fully accomplished, in one process, and that without extra cost for labor—making the machine an important acquisition to mill owners, even in the working of the lowest grade of ores; as, for instance, taking the stream directly from a wet battery, where it is allowed to run to waste, or at the discharge from the amalgamating pans or barrels, the loss from which is not sufficient to pay for saving by any other process.

These machines are made of cast iron, five feet in diameter, and covered with sheet copper, which will be constantly coated with mercury. They require but very little power, and no attendance or expense after being set in motion. They are designed to receive the stream from a battery or from amalgamating pans. The movement will be seen by reference to the engraving, at a glance, by every practical mill man, and will keep the sands and sulphurets loose and in constant motion from center to circumference. The powdered mercury containing gold or silver, is, by the law of gravitation, precipitated to the bottom on the copper. The weight of the loose sand and water, together with the movement of the machine, will cause a gentle friction, sufficient to concentrate the powdered mercury. When concentrated, the amalgam adheres to the copper, whilst the mercury flows on down to the recess in the rim, where it is confined, and the sands and sulphurets are allowed to discharge over the top of the rim all around upon a circular apron, terminating in a sluice. This machine is simple, new, novel and to all appearances should prove effective. The machine is about five feet in diameter, and will weigh about 1,000 pounds. The The cost, for a pair, will be about $500, or $300 for a single machine. The inventor is Mr. S. Johnson, of this city, who has obtained a patent for the same through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Manufactured and for sale by Howland, Angel & Co., at the Miners' Foundry.

IMPORTANT IMPROVEMENT.—The enterprising publishing house of H. H. Bancroft & Co., of this city, have purchased a lot on Market street, a short distance west of Third, running through to Stevenson, on which they will erect an immense building, sufficiently large to accommodate, for some time to come, their increasing business. This structure will be first class in construction, and as near earthquake-proof as bricks and iron can be made.

Efficient Fire Departments.

How important a desideratum fire departments of the greatest possible practical efficiency are in large cities, need not be asserted after witnessing the havoc and pitiable ruin occasionally made in a few minutes' time by an unchecked conflagration. It is gratifying to be able to note that very few destructive fires have occurred in San Francisco, for a long time, notwithstanding our wooden houses and high winds. Without unduly praising our Fire Department for this result, the reasons are evident. Our telegraphic alarm, and paid steam fire engine systems are efficient. The city's employés are wide awake. No fire can break out but that, with the greatest certainty, in a few minutes there is a powerful steam-projected deluge of water playing upon it; and all the appointments are in the hands of experienced persons, who know the character of every building in their precinct.

Comparing this system with others still in vogue in nearly all of the sleepy ancient cities of the old world, one may be excused for taking some little pride in American handiness. Prevention there, as in the tinsel and wooden cities of China and Japan, is the chief reliance. When a fire does occur in those ancient centers of civilization, the effect is rather ludicrous to our traveling barbarians. One will witness on the continent for example, a commotion on the streets, caused by some very unmusical demonstrations from a long old-fashioned country dinner horn, projecting from the topmost habitable cranny of an adjacent church steeple. The firemen depart hastily for their homes to don the proper legal dress, and in due time—a quarter to half an hour, perhaps—a few ridiculously inadequate machines—small-wheeled, antiquarian curiosities—are dragged along. The military with their muskets come to the rescue in large force, but not to work, their business being simply to wall out the populace. If the building burns down quietly, and the adjoining fire-wall does its duty, the demonstration is considered successful.

A recent illustration of the efficiency of our paid fire department, occurring very near home, demands especial notice in the MINING AND SCIENTIFIC PRESS. On the floor underneath this office a fire broke out at 5 o'clock on Tuesday morning last. Damage was done on the lower floor amounting to about $1,000. The firemen broke open our doors, passed through, chopped a hole through the floor in the rear, and extinguished the flames without causing a trifle of damage in the office, or even pieing any type. Under the old system this item might have amounted to many hundreds of dollars.

THE OVERLAND MONTHLY for April contains articles entitled "Outside the Lines," "A Day in Panama," "A Cup of Rio Coffee," "A Consulate among the Fejees," "A Prospector's Story," "Touch of Nature," "Chinese Women in California," "Savings Banks of California," "On the Texan Prairies," and poetry entitled "To-day," "Friar Pedro's Ride," and "Sunset from 'Puu Mahoe.'"

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

Written for the Mining and Scientific Press.

Steam Plowing.

The New York Society of Practical Engineering held its regular meeting at the Cooper Institute, on the evening of the 16th of February, James A. Whitney, President in the chair, William B. Harrison, Recording Secretary. Dr. A. W. Hall read an elaborate paper on "Steam Plowing in England and America, its History, Systems and Connections with the Bread Supply."

In approaching the subject of Agricultural Engineering, and especially that part relating to steam tillage, the speaker was not unmindful, he said, of the skepticism which prevails as regards the steam plow ever being made to take the place of plowing by animal power in this country, but argued that the partial success of many steam plowing devices in this country and Europe, showed these skeptics not justified by the facts in the case. In proceeding with his topic, he touched upon many collateral subjects, and particularly the resources of this country, agricultural and mineral. He showed by statistics, that with our agricultural resources properly developed we could feed and clothe the entire population of the world, but under the present state of cultivation, he said we could not previously provide bread for our own population for a single year of famine. He held that a successful system of steam plowing would amply guard against any such contingency as famine, which though not probable, is, at least, possible; further, such a system would add in a great measure to the intrinsic wealth and greatness of our nation. He then referred to that universal law of progress which seems to declare that necessities develop resource, and instanced the steam engine, the telegraph, and other important inventions, as examples of the operations of that law. He held that the course of events points unerringly to the successful steam plow as the next coming revolutionizing invention,—the crowning agricultural consummation of the age.

In the classification of the different plans that have been tried, the gentleman stated that in all, but four principles have been involved. The first and oldest plan embraces all those devices in which driving wheels are used, as in locomotives. This plan, it was stated, had never succeeded on account of great weight, complication, cost, and inability to move over soft or uneven ground. The second class included all those plans in which are used rotary shafts armed with spades, forks, or other digging arrangements, which perform the double office of loosening the soil and propelling the machine. The objections to the first plan applied to this, also, the more fatal objection of the small working capacity claimed for it. The third plan mentioned was that known as the English or Fowler plan, which he said must be admitted possesses considerable merit, as proved by the fact that there are now more than a thousand in permanent use, with the number constantly increasing. Though not meeting the conditions of economy in this country, he stated that no foreign farmer had dispensed with the system mentioned, after having once tried it. This plan in its latest improved form consists of two 20-horse-power locomotive engines, stationed at opposite sides of the field, across which the plows are windlassed back and forth by means of rope wound around pulleys on drums. One engine pays out rope while the other winds up, meanwhile moving along by their locomotive power, as the plowing progresses. It was stated that this apparatus complete, costs in England $8,000. The fourth plan, the invention of Dr. Hall, patented five years ago, was next considered. This consists in a simple portable engine of about 14-horse-power, placed on a common wagon truck, and provided with a set of traction pulleys, between which passes a wire rope, its ends being securely anchored at opposite sides of the field. In whichever direction the steam is let on, the engine moves, drawing itself by its infallible hold upon the rope, and pulling after it a gang of half a dozen or more plows. It was claimed that this apparatus would in a day plow more than can twelve teams of horses, at a saving of two-thirds in current expenses. The estimated cost of this machine was $2,500, including a mile of wire rope. Its many advantages over the English plan were clearly shown by the inventor.

An interesting discussion followed the reading of this paper, and several ideas relating to further improvement in steam plowing were advanced. The meeting then adjourned.

[Written for the Mining and Scientific Press.]

Origin of the Washoe Pan Process.

"Strange it is, such difference be
'Twixt tweedledum and tweedledee."

Editors Press:—It is consoling that the motto of my letter, if not the matter, met Mr. Paul's approval.

Captain Hatch was mining and working silver ores in the State of Sinaloa, Mexico, long before the discovery of silver in Washoe. On his arrival at the latter place, he used substantially the French mill, a modification of the "Boneficio de Cazo," or kettle amalgamation. He substituted iron for the copper-bottomed pan, or kettle of the Mexicans, and iron mullers for the wooden stirrer. These were the only differences in the apparatus. The chemicals were the same as those used by the Mexicans and South Americans for the last 300 years.

Though I claim for him the merit of introduction, I do not claim for him any invention or discovery. Mr. Paul admits that he was "a fine worker of metals," but as he (Mr. P.) tells us that he beat him, it is to be inferred that he himself is a finer.

The Pan, Barba, Kettle, Cazo, Fondon, Cocimieuto, or Washoe pan process, are, with but slight differences in detail, precisely identical in principle, and suitable for the treatment of chlorides, iodides, bromides, iodo-bromides, simple sulphurets, and oxides of silver, and as stated in my letter of the 20th of March, also for native silver, electrum and amalgam. I fail therefore to see anything but a *possibly more convenient arrangement*, that Mr. Paul can lay claim to.

Referring to the remark that all improvements in metallurgy are claimed as either English, French or German, or of some other foreign country, I may observe that I fully endorse Mr. Paul's sentiments. Captain Hatch was an American, and if the credit due to him is claimed for another, let us hope, for consistency's sake, *that he is also* a native born American. J. S.

Tule Growth.—The Pacheco *Gazette* says that a small redwood box was recently dug out from an overlaying surface of more than three feet of tightly-matted tule roots. It is thought that the box could not have remained in the position in which it was found more than eighteen or twenty years at most; and yet during that time that deep bed of tule had formed over it. This fact affords a striking evidence of the rapid accumulation of vegetable matter through the growth of this plant, and points to the probability of an economical care of its growth being made an important aid in the reclamation of overflowed land. A large, if not the principal part of the material entering into the composition of this plant is derived from the carbonic acid of the atmosphere, which, with proper care may be retained in its solid state, to aid in elevating the land above the overflow.

The Sacramento Gas Co. has increased its capital stock from $500,000 to $1,000,000, in shares of $100 each. A dividend ¾ per cent. has been declared. The price of gas in Sacramento is $9 per thousand feet.

Engineering.

Sanitary Engineering.

The influences which climate, water and soil exercise upon human life should be subjects familiar to the civil engineer. Not the builder only, but he who lays out districts, should study them. The subject cannot be agitated too frequently. Dr. Rumsey recently addressed the "Health Department of the National Association for the Promotion of Social Science," and made practical suggestions, which deserve,—says *Engineering*,—"the best consideration of the legislature."

By means of the circulation, every "particle of blood in the body is submitted to the purifying action of the air in 2¼ minutes, according to some physiologists, while, according to others, the time is limited to *half a minute*. Whichever computation be adopted, it is very certain that where the natural conditions of the atmosphere are neglected the blood becomes vitiated, and health deteriorated with great rapidity. Where the air is free to circulate there are 35 parts of carbonic acid gas in 100,000. In towns of any magnitude 80 parts, and in ill-ventilated rooms and work-shops from 100 to 700 parts. But this is not all: where human beings are crowded together the air becomes quickly loaded with organic matter of inconceivable minute forms, a fact confirmed by the recent conclusive experiments made, by order of the War Office, by Professor de Chaumont, M. D., of Netley Hospital, in the prisons and barracks of London. According to M. Lemaire (*Comptes Rendues* October 14, 1867) skin dirt is composed of perspiration, oily matter, and dust. When allowed to accumulate, it is found to contain myriads of microscopic beings, vegetable and animal (*Bacteria* and *Vibrios*), which convey specific germs of disease to the human system. If to these organic particles there be added,—says Dr. Rumsey,—"the pulmonary exhalations of phthisical and scrofulous persons, charged with elements of disease, believed by many to be contagious, we may obtain some clue to a source of atmospheric vitiation in dense populations, of which there is not the faintest popular notion."

It is in vain that our architects exercise their skill in devising modes of ventilation in our houses; for not only is the motion of the air in towns impeded by the proximity and hight of buildings, but the great purifying element (oxygen) being exhausted, it cannot be restored by motion only. The necessity, then, for the introduction of a supply of pure air becomes as obvious as that of pure water, to which the public is at length aroused; and here, we submit, is a problem, the solution of which may well occupy the attention and the skill of our most accomplished civil engineers; while in the valuable discovery of Cavallo, of the power which air, subjected to the electric current (ozone) exercises on organic matter "by resolving organisms into primitive and innocuous forms," we have another question of quite as great importance for our chemists.

The Suez Canal.—In view of the speedy opening of the Suez Canal, various experiments are being made in the part already finished, to ascertain how fast steamers can go in it, and how rapidly sailing vessels can be drawn through it without injury to its sides. The length of the canal is about 110 miles, so that at ten miles per hour, only eleven hours need be occupied in passing from sea to sea. A steamer of 2,000 tons burden is in course of construction at Hartlepool, England, at present, designed to traverse the Baltic in summer, and to run by the Suez Canal to the East Indies in winter. At Newcastle other steamers of 1,400 and 1,500 tons are being built to carry out pit coals and bring back Indian cottons.

Sewerage and the Sea Wall.—In regard to Dr. Stout's charge of a want of provision for sewerage in connection with the new sea wall, the engineer in charge, Mr. Wm. J. Lewis, shows that the Doctor has spoken unadvisedly, and says: "We expect, in coöperation with the owners of property, to present in a short time a water frontage and permanent structures between Montgomery and East streets which will favorably compare with similar improvements in the principal maritime cities of the world."

White Pine Water Works.—The steam pumps, boilers, pipe, and machinery for the Von Schmidt Water Works at White Pine, are being made at various foundries and machine shops in this city, and are nearly ready to be forwarded to their destination. The supply 310 miners inches, or four million gallons a day, at its lowest stage. The water is pumped up through 12 inch pipe, in successive stages. Along this water course are about forty mill sites, some ten or twelve of which, belonging to Mr. Von Schmidt, are located between Treasure Hill and Hamilton; and about thirty, the property of Mr. Perley and others, lying to the southward towards Pocotillo. It is estimated that the works can amply supply fifty mills of twenty stamps each.

A Grand Engineering Scheme.—In December last, General B. S. Roberts, U. S. A., read a paper before the Connecticut Scientific Academy,—says the New York *Times*,—on the Hydraulics of the Continent. "He undertook to show that the system of confining the flood-waters of the Mississippi River in one narrow channel, by dyking, is obstructing the creative laws of delta bottoms and basins, and working the most serious evil by emptying into the Gulf of Mexico the delta-forming material that would, if the waters were left free, spread themselves over the low marshes and swamps, and in time raise them up to higher levels, by the cumulative process of delta deposit, and create cotton lands. He made a very clear demonstration of an easy and economical plan of engineering these dykes by a system of waste weirs, that should create artificial rivers and carry all the flood-waters into the swamps, morasses, bayous, etc., of the Mississippi basin.

He insists that all the flood-waters that come from the great Western tributaries can be controlled and made available to undo the evil that had its beginning with the French and Spanish who commenced this vicious plan of dyking when they owned the States of Louisiana and Florida, and the vast country west of the Mississippi.

After engineering and disposing of the flood-waters of the Mississippi that come from the great Western tributaries, he proposes another plan for engineering the waters of the Lakes, so as to supply at all seasons to the Upper Mississippi, the Illinois and Ohio rivers, enough of their surplus waters to fix a minimum low water navigation. He makes Lake Superior the natural feeder of the Upper Mississippi, and demonstrates the ease with which all the waters that empty out of it down the Sault St. Marie can be canaled into the headwaters of Rum River, and through that channel into the Mississippi, into the falls of St. Anthony. The waters of Lake Huron and Lake Michigan, that are emptied into Lake Erie through the St. Clair River, by deepening the Chicago River, and carrying them in an artificial bed to the head of navigation of the Illinois River. In like manner he would draw from Lake Erie the waters that discharge themselves over the Falls of Niagara, by deepening the Grand River, and from its headwaters cutting an artificial river to the head of the Beaver River, and down that into the Ohio."

Telegraphic.—The Oregon Steam Navigation Company have completed their line of telegraph from Portland to Umatilla on the 31st inst.

The French Atlantic Cable is on board the Great Eastern at Sheerness, and is to be laid in July. The distance from Brest to St. Pierre is 2,325 miles.

Pacific Railroad Bonds.—As an evidence of the confidence which European capitalists are beginning to manifest in the permanence of our institutions, we may instance the fact that the bonds of the Central Pacific Railroad are now being almost exclusively taken up abroad, and on terms far more favorable than the Company has heretofore been able to realize from American capitalists. The bonds of the Union Pacific Road, although not quite so much sought after, are nevertheless being rapidly absorbed in the same quarter. When we reflect that European banks have for years held in their vaults not less than $500,000,000 of idle capital, with no present prospect of any employment for the same in Europe or Asia, this renewed confidence in American securities gives promise of most important results, which, if rightly improved, may be made to aid largely in the development of the varied industrial interests of the Pacific Coast.

Mechanical.

"Blowing off" and "Firing."

Two of the sources of the waste of fuel used in the generation of steam,—or rather, of the waste of heat obtained from that fuel,—are, improper firing and the use of impure water. The *Scientific American* has an article upon the subject, in which the statement is made, that careful experiments made under the supervision of experienced engineers show the loss of fuel caused by the necessary "blowing off," even with good management, to be about 33 per cent. of the total amount used. "In the British navy one-half, or near that quantity, of the total amount of water is extracted from the boilers by means of brine pumps, and although this immense loss of heat is equivalent to nearly three-fourths of the whole consumption of fuel on the grates, it has been found that incrustations of variable thickness will invariably form after a voyage of a few weeks' duration. In the French navy the blow-off is continuous, the water in the boilers being kept at 0.10 of total concentration, so that one-half pound is blown off for every one pound transformed into steam, or one-half pound is blown off for every one and one-half pounds of feed water, corresponding to three degrees (observed while hot) of the standard saturometer adopted by the service. In the Dutch navy the blow-off is effected by hand, periodically, according to the indications of the salinometer, care being taken to allow the water to rise three or four inches above its normal level in the boiler before opening the blow-off cocks."

The only way of avoiding the waste of heat is by using only perfectly pure water. This is secured by the use of condensers, of which there are many forms, most of them, however, open to objections of one kind or another.

The firing of a furnace, although apparently a simple matter, is by no means properly done by all who make it their business. A difference of as much as one-fourth of the amount of fuel used, is perceptible under the management of two different stokers. The following rules for the guidance of such of that class as are willing to learn, are given by W. Wye Williams, C. E., and are quoted in the article aforesaid:

1. Begin to charge the furnace at the bridge end, and keep firing to within a few inches of the dead plate.
2. Never allow the fire to be so low before a fresh charge is thrown in that there shall not be at least four or five inches of clear, incandescent fuel on the bars, and equally spread over the whole.
3. Keep the bars constantly and equally covered, particularly at the sides and bridge end, where the fuel burns away most rapidly.
4. If the fuel burns unequally, or into holes, it must be leveled and the vacant spaces filled.
5. The large coals must be broken into pieces not bigger than a man's fist.
6. Where the ash-pit is shallow it must be frequently cleared out. A body of hot cinders overheat and burn the bars.

Liquid Fuel in France.—An American who signs himself "H. H. H.," writes from Paris to the *Scientific American*, describing a practical test recently witnessed by him in that city, of the working of an American invention for the use of liquid fuel in steam making. The engine was of 15-horse power. The fuel used was "the refuse of oil," at the rate of two gallons per hour. Its cost was three cents per gallon, say $7 per ton. A ton of coal,—he says,—will occupy 44 cubic feet; liquid fuel only 33,—and the latter will evaporate more than twice as much water as the former. The labor required is moreover only about one-tenth that necessary for managing a coal fire. "After several hours running, it was found that the ratio of oil consumed, to the evaporation obtained, had diminished to about one-half the amount used at first.

The writer says that capitalists have bought the patent for several European countries, at a high figure. The inventor considers the plans specially applicable to metallurgical processes, and has designed and patented furnaces for such processes which are calculated for the use of liquid fuel. The scientific and practical gentlemen who were present at the trial, unanimously gave it as their opinion that the use of liquid hydrocarbon as a fuel was a "success."

The Epicycloidal Engine.—The London *Mining Journal* reports a paper read by Mr. Laird, at a recent meeting of the London Association of Foremen Engineers, entitled "The Epicycloidal Engine; an Effort towards Improved Screw Propulsion." "The modern short-stroke horizontal screw engine," said Mr. Laird, "owes its shortcomings to the desire to pack the whole machine in the smallest possible compass. That engine, however, is the best which, with a given total length, has the longest connecting-rod. The disadvantages of the short connecting-rod may be comprehended as thus: 1st, Increased friction produced by the augmentated rubbing pressure of the guide pieces; 2d, a certain amount of increased friction on the joint-pin between the piston and connecting-rod; 3d, increased friction at the crank-shaft bearings due to the alternate lift and down pressure upon the shaft; 4th, and most important of all perhaps, the irregularity of motion induced by two violent pressures succeeding each other at short intervals, and the long pause intervening when the force is very small. In the epicycloidal engine two cylinders of rather unusual length are placed on either side, and parallel to the screw shaft. To the ends of the piston-rods guide-blocks or slippers are keyed, or otherwise secured. Two pins pass through the blocks, and these carry friction rollers with V edges. The rollers work into epicycloidal grooves, cut on the circumference of a barrel, and thus communicate to the latter a rotary motion. The barrel communicates motion to the screw-shaft and propeller. The object is to create on the face of the barrel such a curve as would give the action of the crank transmitted to the travel of the piston. In order to obtain this end the circumference of the barrel was divided into a given number of parts (say) 12, and half its length into 144, or the square of 12. Then, starting from the middle with 2 on the circumference, and drawing a line to 4 on the half length—from 3 to 9, 4 to 16, 5 to 25, and so on till reaching 12 to 144—a geometrical curve. The alternate action of the friction rollers into the groove give the required rotary motion."

Casting Iron Pipes.—An exchange gives the following French method: "The boxes for casting the tubes are set up on end, in a semi-circle, around a crane that commands the whole of them, and consists of two semi-cylindrical jointed portions connected by pins. At their lower end is a valve, serving to close the tube, while a conical depression in the middle receives the spindle of the pattern and of the core, exactly centering them. Tubes of different sizes are provided, so that there need not be more than one and a half or two inches space between the pattern and the walls, and the labor of stamping is thus diminished. Small apertures in the tubes permit the escape of the gases. The mold is made in the usual manner, the patterns being of smooth and polished iron, and turned round once on the axis, before being withdrawn, by means of the crane. Heated gas is then admitted from the furnace into and through the tube until the sand is perfectly dry, which takes from one to two hours. The core is then inserted, and the casting effected. The connect between the furnace and the casting tube is established by means of a slide or valve."

Fire-Proof Flooring.—A new French plan for making the floors of warehouses fire-proof, consists in first spreading upon the planks a layer of clay about an inch in thickness, and running upon this a layer of asphalt about half an inch thick. Numerous experiments, it is stated, have proved the efficacy of this as a protection against the spread of fire, and it has been adopted in all the corn stores of the General Omnibus Company of Paris.

Varnish for Artists.—A good varnish for mechanical and architectural drawings, maps, etc., is obtained by dissolving in one gallon of alcohol one pound of white shellac, one-quarter of a pound of camphor, and two ounces of balsam fir. This varnish dries rapidly, and has been successfully used by experienced artists.

Scientific Miscellany.

Transpiration of Gases.—*The Engineer* reports a lecture delivered on January 30th, at the Royal Institution, by Dr. Odling. He said that in the passage of gases through capilliary tubes, the same quantity of any one gas will pass in the same time, all the conditions being equal, whatever may be the material of the tube; probably because the sides of the tube are lined with a still layer of the gas, so that the moving portion does not touch them. "Each gas has its own rate of transpiration, hydrogen traveling through the orifices much more rapidly than oxygen. If the two gases be mixed, the rate of transpiration will not be that of the mean between the two gases, but the rapid hydrogen will impress its rate upon the slow oxygen, a fact at present which is quite inexplicable. When the capillary tubes are very small indeed, gases diffuse through them at entirely different rates, which rates are inversely as the square roots of the specific gravity of the gases. When hydrogen diffuses into air, it travels at the same relative rate as into a vacuum, but not at the same real rate; whenever one gas diffuses into another, there is reciprocal action; and when four parts of hydrogen diffuse into air, one part of air will diffuse into hydrogen, so that there is an effective pull of three volumes of hydrogen. To show this diffusion, Dr. Odling took six long clay tobacco-pipe stems, and connected them together at the ends with joints of black india-rubber tubing. He then decomposed water in a flask, by means of an electrical current, and allowed the explosive mixture of oxygen and hydrogen to pass along the bore of the pipes. The hydrogen all diffused out through the substance of the clay, whilst one-fourth its bulk of common air diffused inwards. Nothing, therefore, was delivered at the further end of the pipes but a non-explosive mixture of oxygen and common air. He then held up a long glass tube with a bulb at the end, and asked the listeners to assume the globe to be a cell of the lungs, which, in expanding and contracting, causes air to flow backwards and forwards through the tube. This explains the mechanical action of the lungs, and it is believed that they take up oxygen from the air by diffusion. Ether will diffuse more rapidly into hydrogen than into air. Gases will also pass through other than capillary and porous septa; they will pass through cold, soft, colloid substances, such as india-rubber, albumen, and some of the metals, but the rate of passage is again altogether different."

Auriferous Rocks in Southeastern Africa.—This was the subject of a paper read at a meeting of the Geological Society of London, January 27th, by Sir R. I. Murchison. We find it reported in the London *Mining Journal*. The author of the paper was Dr. Sutherland, who, fourteen years ago, expressed the opinion that gold would be found in the metamorphic rocks of Natal. A few months since Mr. Parsons found this metal by washing the iron-sand of some of the southern rivers of the colony. The gold is in microscopic rounded grains. Dr. Sutherland considers that the gold is diffused as minute particles in the granite and gneiss underlying the Silurian rocks of South Africa. These old gneissic rocks are much contorted, include extensive veins and lenticular masses of quartz, and are traversed by basalts. The Silurian strata, resting unconformably on the gneiss, have been invaded by igneous matter (which is never granitic), and though generally horizontal, are frequently flexuous, and in some places greatly faulted, to the extent of even 1,000 feet, together with the gneissic rocks beneath. These latter have been deeply eroded by the rivers, frequently to the depth of 500, 1,000, and even of 3,000 feet in some valleys; and in the alluvia of these valleys gold occurs. The valleys have sometime evidently commenced in great displacements, forming "valleys of elevation," on which the denuding agency has been operating ever since. In certain mountains in the basin of the St. John's River, Natal, dioritic rock traverses the secondary strata; and along the line of contact it contains copper ores, with 100 grains of gold to the ton.

Mr. David Forbes was glad to find that Dr. Sutherland corroborated his views as to the occurrence of gold in two ways:

1. In auriferous granite, as in Wicklow and elsewhere.
2. In eruptive diorite, a basic rock without free quartz, and certainly of post-oolitic date, almost always accompanied by copper veins. Most California alluvial deposits of gold were derived from this class of rocks.

In constructing some of the railways of South America the granite was found to be so soft, from decomposition, that it could be cut with the pick and spade, and this softened granite when washed produced gold.

Professor T. Rupert Jones considered that, by means of Dr. Sutherland's communication, the Laurentian and Silurian rocks were now, for the first time, to be recognized as existing beneath the *Dicynodon* rocks of the Natal ridge.

The Himalayas.—Robert Von Schlagentweit, one of three brothers from Munich, who have been traveling in the East for the last fourteen years, recently lectured at Steinway Hall, New York. He had just concluded a course of eleven lectures before the Lowell Institute at Boston. The brothers traveled separately and in disguise, having only occasional meetings, months apart, previously agreed upon. The lecturer was listened to at Steinway Hall with great interest as he described the charming Sprinagor, with its artificial islands and swimming gardens,—its exquisitely beautiful women and its symmetrical men. "Here also grows the veodara, which appears as if covered with gold dust, which, with the sun shining upon it, looks truly gorgeous." The lecturer described,—saye the *Tribune*,—"the wonderful effect of the sudden transition from rich vegetation to snow-clad mountains, of which 216 had already been measured, 17 of which measured 25,000 feet, 40 over 23,000 feet, and 120 over 20,000 feet, while the much-renowned Mt. Blanco measures only 15,784 feet. The Gaurisankar or Mt. Everest measures 29,002 feet; the next highest mountain in the Himalayas is the Kanihiniinca, reaching the bight of 28,156 feet, or 2,000 feet more than the famous Dhovalaghiri."

The Solar Prominences.—Professor Alexander Herschel, of Glasgow, recently lectured upon this subject. He said that the theory of M. Faye as to the constitution of the sun was very difficult to be shaken, and was the one generally received; viz., that the sun is purely gaseous in its nature, and is composed of substances volatilized by the intensity of the heat: "Incandescent solid or liquid matter always gives a continuous spectrum, but the light of the sun shows a spectrum which, though nearly continuous, is cut here and there by fine dark lines. Such effects can be produced on earth by placing an absorbing gas between the spectroscope and a white-hot body emitting the light under examination. Hence it is believed that the white-hot particles in the sun float in and are covered by a gaseous atmosphere. That the solar prominences are gaseous in their nature, was proved by the spectroscopic observations of the last eclipse, and although the observers vary in their accounts of the lines they observed, all tend to show that burning hydrogen is very plentiful outside the more luminous photosphere of the sun. The largest promineuce of blazing gas seen during the eclipse was about 90,000 miles high."

Speed of Signaling through Cables. The "speed of signaling" through a telegraph cable varies,—other things being equal,—as the square of the uninterrupted length. That is to say, if a cable were divided into two equal parts, the speed of signaling through either would be four times as great as through the entire cable in one piece. So the gain in speed by dividing a cable into parts would be in proportion to the number of those parts.

Early American Maps.—Rev. D. L. Woods, late President of Bowdoin College, secured reduced copies of thirty-two early maps relating to the discoveries on the northeastern coast of America, during the first half of the 16th century. They are soon to be reproduced among the collections of the Maine Historical Society. He discovered also a manuscript of Richard Hakluyt, drawn up at the request of Sir Walter Raleigh, in 1584, giving an account of the results of the "Western Discoveries lately attempted."—*Am. Journal Sci. and Arts.*

White Pine Summary.

VEINS UNDER CHLORIDE FLAT.

In the Charles & Teresa mine, an old location, for a thousand feet on "the ledge," Captain Mallett has struck not only $10,000 ore, but a vein; at the lowest workings three feet in width, in regular casing, and dipping to the west at an angle of between twenty-five and thirty degrees. The vein is of quartz, and spar, and is well filled with horn silver, the latter appearing in broad scales wherever a mass of ore breaks, seeming to permeate every portion of it. The appearance of the rock at the lowest depth reached, indicates—says the White Pine *News*—a regular system of veins running through Chloride Flat.

NAMES.

There are so many mines of nearly or quite the same name at White Pine, that the personal names of owners are coming into favor as the best means of avoiding confusion.

ANTIMONIAL SULPHURETS.—The St. Lawrence ledge, near Hamilton, shows beautiful ruby silver, in quartz. The *News* mentions especially several rich specimens, as beautiful as the rarest ever obtained at Austin.

FISSURES LINED WITH SPAR.—One of the characteristics of Treasure Hill is that these are frequently traced to a connection with chloride deposits. The Canton shaft, for example, followed a fissure of this kind to a depth of 115 feet and struck rich chloride ore. Whether these fissures are continuous cracks, or mere cavernous openings caused by the well known, and frequently observed dissolving influences of water upon limestone, appears to be very imperfectly determined. Some of the larger chloride bodies are very possibly re-fillings of such openings, where the limestone for some reason or other was more easily dissolved out than elsewhere. The spar following the fissure, being nothing but limestone, was deposited there very probably by the same solutions that deposited either the quartz or the chlorides, or that metamorphosed the latter from sulphurets. It is nothing astonishing or novel therefore to find that there is frequently a connection between them, for both seem to have traveled the same road. But if quartz and lime accompany silver, it is yet not safe, as we know, to conclude that the reverse is inevitably true—that silver accompanies either quartz or spar wherever they occur in metalliferous regions.

CASES OF SHARP PRACTICE, may, in the excitements that steep Treasure Hill, be overlooked, after a few days, in that vicinity, on the prineiple that "might is right," and the successful money-catchers be encouraged by all the world to hold their heads aloft. But at this distance from Treasure Hill the attempts of Brandow and of the honest minor, (we are sorry that our imperfect memory prevents us from doing justice to his name,) to obtain a look even less commendable than the raids of our enterprising burglars and highway robbers in San Francisco. A successful burglar may enjoy the satisfaction of getting away with his spoil and his neighbors' not being the wiser of it. But a mining sharp is sure to be found out at the very instant that he pockets his gain; and tricks like those referred to must cause the rogues a fine sensation in the act of being caught.

INDEFINITE REPORTS of newly discovered rich districts, "eighty miles southeast" of here or there, circulate so plentifully in the silver regions, and there is so little to them ordinarily, that justice cannot be done in making much notice of them at the present time. Silver and copper of course exist, nearly everywhere, in traces; the additions to this fact, as detailed in the reports, varying to a considerable extent, as the imaginative capacity of the observers. Their effect, however, will be to develop, in the end, substantial deposits in more than one good locality besides White Pine.

Before the Summer is ended, says the Reese River *Reveille*, there will be no place on the map of the region between the Wasatch and the Sierra Nevada that can properly be marked as "unexplored regions," but in these blank spaces may be towns and cities, with all the busy life of prosperous communities. This is possible, and from facts lately come to light, is more than probable. Few would have thought one year ago that upon this lofty, rocky peak would be built a city of six thousand inhabitants, which at this time would become famous throughout the world. Now every barren rock will be examined, and none so precipitous, snow-covered, or cloud-capped will repel the silver hunter.

ABOUT THE DIAMOND RIDGE.—The most important developments yet made in the Diamond range are in the Eureka district, where the ore occurs under conditions similar to that of White Pine. It exists chiefly in the form of deposits in limestone, and the ore produced in many of the claims is of a high grade. Experiments have shown that much of the ore may be treated successfully by smelting, and a company is now engaged in building a furnace for the purpose, which will be completed this month. There appears to be no doubt of the success of these smelting works, and when it is known Eureka will receive a share of the attention now concentrated on White Pine. Besides the smelting ores, others suited to the process of amalgamation are said to exist in abundance, and several tons have been worked at the Manhattan mill in this city which yielded handsomely of silver. The slight explorations of prospectors encourage the belief that the Diamond range is highly metalliferous.—*Reveille, March 15th.*

THE WEATHER during the last days of March was fine at Hamilton, says the telegraph, with northerly winds and passing clouds; thermometer 60° during the day, below freezing at night. Streets bare. At Treasure City, and on Treasure Hill, the snow was melting very slowly, but on the 30th and 31st there came another snow storm,—snow in the mountains but rain principally in the valleys,—which stopped the stages, and treated passengers who generally went on "footing it," to an old style rough time, there being six inches of snow in Ruby valley. To imagine it is enough for us.

POPULATION, HOUSES, ETC.—We are told by different correspondents that more work is to be found by new comers, at present in connection with building, than mining, about Treasure Hill. Before July 40,000 people are counted upon, that will have to be housed somewhere in the district. Employment is promised to at least 20,000 miners and millmen. In Treasure City the lower side of Main street is built up solid for half a mile in length, with one story and quite often two story houses, which are devoted to merchandizing and saloons; the upper side of Main street, we are told, "is devoted principally to what the old French chroniclers call "*La noblesse de robe*," that is to say, the gentlemen of the law,"—who are surely in force enough to secure justice to everybody that may deem that he has a right to be rich, and who finds himself left in the lurch by an unjust world. Accommodations still fall far short of the demand, and as lumber enough cannot be had, even carpenters by the score are said to be lying idle; the local sawmills being of but small capacity and entirely unable to supply the demand made on them by the towns of Treasure City, Hamilton, Silver Springs, Eberhardt, White Pine City, Swansea, Babylon, Pocotillo, etc. Streets and grades are not yet established. Wells, Fargo & Co., in connection with the Bank of California, have purchased two lots on the west side of Main street, near Virginia street, and will build thereon a fire-proof building of stone, having forty-six feet front, with a depth of sixty feet.

A private letter states that a number of persons have left White Pine to get work on the railroad. * * The *Daily Inland Empire*, published by Ayers and Putnam, formerly of Virginia City, has made its appearance. * * That part of Lander county in which White Pine is at present situated, says the *Reveille* of March 25th, appears to be exceedingly insalubrious to "witnesses." In the return of the Deputy Sheriff made to the District Court that morning there were affidavits from three physicians, and a certificate from the fourth setting forth that the persons subpœned were too sick to "travel to Austin." * * Three stages containing some 27 passengers for White Pine, nearly all old miners and prospectors, left Virginia City on the 22d. Letters received there at present are said to be about half and half as to the prospects in paradise. * * During the last week Hamilton presented a scene of life and business not often witnessed in older cities. The street in front of the offices of Wells, Fargo & Co. and the Pacific Union Co. has been almost entirely blockaded with goods of all kinds. * * During the month of March, up to the 27th, bullion to the amount of $42,994.22 was shipped from the express office of Wells, Fargo & Co. During the preceeding week the Pacific Union Express Co. shipped from their office, 38 bars of bullion, weighing 3,864 pounds, and valued at $63,599. * * The Board of Brokers, at Treasure City, is not yet fully under way. The number of members is limited to 50. A regular member's seat commands a premium of $200. No quotations are yet reported.

ELKO OF TO-DAY.—There are some ninety tents and three or four board houses in Elko. There are about forty places where whisky is sold, some ten places where general merchandise is sold, one drug store, two butcher shops, some dozen lodging tents, two harness and two blacksmith shops, a good many apple and peanut stands, one place of general trade, kept by Kate Forrest, and one hurdy-gurdy house. Mr. Erlanger says there is no work being done in Elko except the putting up of a tent occasionally, though considerable preparation is being made to commence farming in the country adjacent.—*Enterprise.*

MINING AND MILLING.—The California mine, says the telegraphist to the *Bulletin*, bids fair to rival the Eberhardt. * * The Katie lode near the toll house on the road to Shermantown, is four feet in thickness, and has the appearance of being a true fissure vein. Quite a number of very fine appearing veins have been found in that vicinity lately, and the locality is rising into high favor with the prospectors, says the White Pine *News*. * * At Shermantown two mills—the Oasis and Moore & Borker's—are steadily at work on a full supply of ore from the mines of the Eberhardt Co. The first mill is running on ore producing $600 per ton, and the other on ore of a lower grade, producing only at the rate of $250 per ton. Sixteen tons per diem are reduced, producing in the aggregate, $7,000 daily. * * Extensive contracts have been let for doing work in the Florida mine and on the mines of the Manhattan Co. * * The Happy Jack vein carries metal throughout, and range, from $136 to over $900 per ton. It is estimated that the entire mass will work near $900 per ton. * * The Phœnix mine has been further developed and now shows a breast of splendid ore, between well defined walls of from twenty to thirty feet. It is located near the Peter Rice toll road, about a quarter of a mile from Hamilton, and is said to be the most promising ledge on that side of Treasure Hill. The company are taking out several tons of ore daily, which it is estimated will mill from $200 to $500 per ton. * * The Wheeler mine, beyond the small pox hospital from Hamilton, is in a vein containing plentifully the black sulphurets of silver, which the editor of the *Inland Empire* traces from the well-defined croppings observable near the northern base of Treasure Hill, by way of the Virginia, Parker, Phœnix and Featherstone mines; forming quite a list of valuable mines in the vicinity of Hamilton, to which the Maggie, Donnelly and others might be added.

PROSPECTING AND NEW DEVELOPMENTS.—Mr. James Basey has explored several mountain ranges lying between the White Pine and Eagan ranges, and found mineral, but is not satisfied with the prospects obtained. In Patterson district he found about 100 men engaged in prospecting. A large number of very promising veins have been found, the most valuable appearing to be the Grey Eagle and the Peek, which show a width of about six feet, and crop out for a distance of three or four thousand feet. About three miles north of the Grey Eagle are the Curtis and McClure ledges, which are very wide and assay $95. * * Judge Lindsley and four other gentlemen left Shermantown on the 25th instant, for the purpose of examining the mines of Grant, Troy and Reveille districts. * * The Black Eagle ledge, located six weeks ago, in the Spring Mountains, 7 miles north of Hamilton, has developed a rich deposit of a gold and silver ore, the gold largely predominating—some of the rock being literally spangled with the precious metal. The lode is represented to be from 20 to 40 feet wide, the pay streak being about two feet in width and running along the north side of the ledge. * * Valuable discoveries have recently been made about 40 miles from Treasure City, in a direction a little north of east, in a new district called the Robinson. The ledges are large and well defined, assays running from $100 to $500 to the ton in croppings, and some selected specimens going as high as $1,500. Large timber and good wood is abundant. Messrs. Lamb, Russell and Hicks, old Virginia City men, have bought Robinson's ranch for a town site, at a cost of $6,000 coin, and have also located a toll road from the new diggings to Egan Cañon, the nearest settlement. * * On the 17th instant "Cave District" was organized in the range of mountains which contain the great Mormon cave. The country rock is limestone, and six large veins of metalliferous quartz pass through it. Two of these, the Homestake and Lizzie's Potosi, show ore of great richness, the species being stettefeldtite, which was found so plentifully in the croppings of the Highbridge, at Silver Bend. The district abounds in timber and water, and is surrounded by a good agricultural country.

British Letters Patent.

The attention of Pacific Coast Patentees and inventors is invited to the annexed abridgement of the Laws and Regulations relating to patents in this country:

The invention must be new in the kingdom, but may have been used and published abroad at the date of application. An invention patented in America may be secured at any time during the life of such prior patent. The application must be limited to one invention. The invention must be useful to support a patent, and there is a *nominal* investigation of its merits, by the law officer—Attorney or Solicitor General.

The actual inventor or first importer—a native or foreigner—and the resident legal representative of a deceased applicant, may become a patentee. The first importer or communicator need not be the actual inventor, or even meritoriously connected with the invention. There is generally no remedy for the actual foreign inventor who has been anticipated in his application by a first importer or communicator. A joint inventor cannot secure a patent in his own name, but may, when residing abroad, singly communicate the invention. A minor or married woman may secure a patent. It is for many reasons advisable to secure British patents in the name of a resident agent.

The first stage of a patent is "provisional protection." The invention is protected from date of application. To complete the patent, "notice to proceed" must be given within four months, "warrant and seal" be applied for within five and a half, and "complete specification" filed within six months when not lodged with the petition. The application may be abandoned at any stage. The invention may be worked and negotiated under the "provisional protection," but an assignment cannot be recorded or properly made before the issue of the patent. The grant of the patent may be opposed within three weeks of the publication of "notice to proceed." The patent *may* be completed two months from first application. A limited extension of time may be obtained for taking the several steps when failure has arisen from accident or death of applicant. No model or specimen can be deposited. No patent of addition is granted, but disclaimers are allowed, and a duplicate patent, in case of the loss of the original, may be obtained. The patent is granted for fourteen years, but expires with a prior foreign patent. An extension, not exceeding fourteen years, is sometimes granted, or the patent may be annulled for good reasons. A stamp duty is payable at the end of the third and seventh years of the patent. The patent-right does not extend to the Colonies. An assignment, to convey the title, must be recorded. The patented invention may be freely imported, subject to the revenue laws. Either joint patentee may make and sell the patented article for his sole benefit. The law does not require the invention to be worked. The patent right extends throughout Great Britain, Ireland and Scotland.

DEWEY & CO.,
American and Foreign Patent Agents, Mining and Scientific Press Office, No. 414 Clay street, San Francisco.

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

SAN FRANCISCO, April 3, 1869.

Financial.

Our local money market does not exhibit so much plethora as at the date of our last issue. The demand for money has been unusually active for some days past. Delays and obstacles to the regular transmission of mails have caused the necessity for duplicate remittances eastward, in order that they might reach their destination in time. Very large drafts have been made upon our cash supplies for mining and real estate operations, nevertheless our market works steadily and with unchanged rates. The business done by our savings and loan societies in the way of advances upon real estate and cancellation of mortgages is heavier than at any previous period, and though their cash balances are remarkably large, loans of the kinds named readily command 1 per cent. per month. Bank rates rule steady at 1@1½ per cent. monthly, exceptional paper being done at 1½ per cent.

Business is improving, and shows signs of sprightly activity at an early day. Our wheat crop — much the largest ever seeded in the State—is now considered as being fully assured, the plant being sufficiently high to shelter the roots and prevent the moisture from going off by solar evaporation. Moth, mildew and rust are scarcely known in this State, and the only enemies we have any reasonable cause to dread are blighting northers and the chance of conflagrations in the ripened fields. The former are not likely to occur after the vernal equinox, and the ground is thoroughly saturated by late copious rains. The wheat yield for 1869 is estimated at upwards of ten millions of centals.

City Stocks.

During the week under review we note sales of San Francisco Gas stock at $77 per share, and North Beach and Mission Railroad at $72 25. The usual monthly dividends are announced by the following incorporations: San Francisco Gas Co., Spring Valley Water Co., and Sacramento Gas Co. The latter company increased its capital stock from $500,000 to $1,000,000, divided into 10,000 shares of $100 each. In connection with the State Telegraph Co. dividend announced in our issue of the 20th of March, we stated that the last previous dividend was paid in July, 1868, whereas the *last* previous dividend was paid to stockholders in November of that year. The Pacific Bank and Merchants' Mutual Marine Insurance Co. also announce their usual dividends for the present month. At the close, we note sales of San Francisco Gas stock at $77 50, and one share of California Steam Navigation Co. at 71 per cent. The North Beach and Mission Railroad Co. disbursed their usual monthly dividend on the first instant, having changed their dividend day from the 15th to the 1st of the month.

Mining Share Market.

Since our last issue the market for mining stocks has been somewhat irregular, and prices, as a general thing, are less firm than at the opening of the week; however, several prominent claims have appreciated considerably in view, no doubt, of approaching dividends during the present month.

From our carefully compiled record of the sales in the San Francisco Stock and Exchange Board, we give the following interesting figures for the first three months in 1866, 1867, 1868 and 1869:

MONTH.	1866.	1867.	1868.	1869.
January....	$2,727,187	$3,664,322	$8,698,934	$7,964,134
February...	3,752,292	3,303,520	9,716,596	6,818,644
March.....	5,299,084	4,031,289	11,471,830	6,954,145
Totals....	$11,778,563	$11,002,131	$29,887,360	$21,737,523

White Pine becomes more and more fascinating, as the time approaches when prospecting can be conveniently carried on. It is affirmed that the mineral belt is very extensive, stretching away to the southeast of Treasure Hill, and that the ore is remarkably rich. It needs to be extensive, to give room for the 170 companies organized to carry on mining operations in that district. The amount of capital represented by these companies is about $250,000,000, and it is said that over $100,000,000 more will be "stocked" in the same business from the East. In March alone, there were 80 new companies incorporated in this city, nine of them being incorporated in one day. Should this furor continue, and there are no evidences of a decline yet, the amount of money represented in White Pine companies will reach to $400,000,000 by the end of June next. We know too little about the facts yet to separate "wild cats" from good claims; but there will be a terrible commotion some day not very remote.

GOULD & CURRY—sold within a range of $98@119 in January, $103@110 in February, and $100@118 in March. We again make copious extracts from a correspondent to the *Daily Herald*. Concerning the Gould & Curry mine he says: In its hey day of prosperity was the most famous of all the silver mining companies of this district, the lode being wider and the amount of rich ore larger than in any other claim. Even now the old levels yield considerable quantities of pay rock, which was passed by as unprofitable in the days of high milling charges. The present prospecting work is being done through the Bonner shaft on D street, which has been sunk to the depth of 1,140 feet. About six weeks ago the shaft caved, caused, perhaps, by a little carelessness in the retimbering to put it in proper working order for the pump, guides, etc., preparatory to drifting at that level. The shaft has since been put in proper shape, and work was resumed in the bottom some ten days ago, and sinking for a sump commenced with very fair prospects. Quartz, carrying considerable metal, has been extracted, as the work has been prosecuted to greater depth. Unfortunately, a few days since, they broke their spur wheel shaft, requiring four days and nights to repair, and, in consequence, the shaft filled with water to the height of about 300 feet. The hoisting and pumping machinery are now in good running order, and the water in the shaft is being reduced at the rate of about forty feet in twenty-four hours. It is proposed to sink about twenty feet deeper, for the purpose of a sump. When that is done the drifting from that level will be commenced, west through the lead, and north and south upon it. I call it a lead, because every indication shows conclusively that it is one or, at least, what some term the east body of ore, from which the Savage and Hale & Norcross have been extracting a large amount of pay rock since the suit with the Mitchell Company in 1867, and from which they are still taking immense quantities. The 1,140 level or bottom of the shaft is about 300 feet lower than the Savage sixth station, and the Savage sixth station is about 200 feet higher than the Hale & Norcross fifth station. Those are the working levels, at present, of the Savage and Hale & Norcross. The Savage Company are now sinking for their seventh station, which will probably be opened in the course of two months, as they are now down between seventy and eighty feet. Should the Gould & Curry find, as is confidently hoped, as rich a body of ore as has been struck in the claims immediately south, it will prove of great advantage in reviving the spirits of stockholders in many of the claims which as yet have unsuccessfully searched for the missing lode at the present depths. From what is called the old mine, some forty to sixty tons of fair milling ore, averaging from $18 to $28, is now being extracted daily.

SAVAGE—was largely dealt in during the past quarter, selling at $75 50@87 50 in January, $80 50@73 in February, and $64@79 in March. "This claim—800 feet—adjoins the Gould & Curry on the south. Their present works are situated a little east and south of the Bonner shaft. They are extracting over 200 tons of ore daily, of a very good quality, milling from $35 to $40, averaged. The larger portion of it is being taken from what is called the Potosi chimney. The breast at that point, which is on the third station, is from thirty to forty feet wide. It is said that the winze from the third to the fourth station is looking very promising. The extent of this body of ore is not known, but there are no indications of it 'petering' at present. A considerable amount of ore is also being taken from the old, or west works. On the sixth station, in the north mine, a few days since they struck a formation similar in character to the body of ore found in the Potosi chimney, on the third station. But as yet it has not been sufficiently developed to demonstrate fully whether it is a continuation of that body or not. Some portions of the shaft having been sunk through swelling ground, it has been a matter of considerable trouble and difficulty to keep it in good working condition. Below the sixth station, however, the ground is harder and of a much more favorable character, greatly facilitating the work of sinking. From all appearances this mine is being worked for the benefit of the stockholders, and not, as some other valuable claims here are, apparently for the advantage of the mills alone."

HALE & NORCROSS—changed hands to a very large extent during the past three months, selling within a range of $44 50@70 per share in January, $61@98 in February, and $77 @98 in March. The fourth station level of this mine produces a large quantity, and on the fifth level the ore is now two and a half feet wide, appearing regular in its formation. The breasts on the 175 level are reported to look well, and work done by the Chollar company below this level adjoining this claim (Bajazette ground) shows a body of good ore 18 feet wide as far down as has been worked—about 55 feet. The Hale & Norcross company are opening the 300 level, in order to take out this body of ore to greater advantage. To this date the March receipts of bullion aggregate $14,840.

KENTUCK—has also been active during the first quarter of the present year, selling as high as $263 in January, falling to $200 in February, and rising to $385 in March. The bullion returns, so far, on March account, foot up $52,461. Rumor has it that a handsome dividend will be disbursed the present month.

CHOLLAR-POTOSI—sold at $158@137 50 as extremes during the month of January, $160@171 in February, and $157@180 in March. During the week ending March 26th, 740 tons of ore were extracted, of which the new tunnel stope yielded 80 tons. In the new shaft the rock is said to work easier, but nothing of an encouraging nature has yet been encountered. This mine is yielding at the rate of 120 tons per day. The Secretary's office has been removed to 19 Hayward's Building, California street.

IMPERIAL—ruled at $100@149 in January, $104@149 50 in February, and at $82 50@199 50 in March. To the 27th ult., the bullion receipts for the month of March aggregate $17,008. The lower drift—1,100 level—is still obstructed, and work delayed.

CROWN POINT—has been quite active during the past three months, selling at $52 50@70 in January, $65 50@73 75 in February, and $70@80 in March. The shaft is at present being repaired, which will take about a week to finish. Commenced drifting from the 1,000 level, and it is believed they will cut the vein simultaneously with the drift from the 1,100 station.

OPHIR—has been watched with great anxiety during the past few months, and considerable stock changed hands, selling within a range of $33@39 in January, $39@45 in February, and $29 50@40 in March. The face of the west drift in the new shaft is reported to look better, the rock being more sunny. The drift has attained a distance of over 130 feet.

OCCIDENTAL—gained considerable prominence during the first quarter of the present year, selling during the month of January at $21@31 as extremes, in February at $27@33, and in March at $26 50@35. A correspondent writes that the ore in the winze continues to improve; in fact, the whole south mine shows better prospects than ever. The lower tunnel is being steadily driven on, and the face is now dry. About ninety tons of ore per day are now being shipped to the mill, where it is the intention to accumulate 1,000 tons, in anticipation of more stormy weather, and consequent bad roads. A dividend will certainly be paid this month.

SIERRA NEVADA—is in good request, having greatly appreciated in price during the month of March. In January sales were made within a range of $25@32, in February at $21@30, and in March at $27 50@48. This claim has lately been yielding increased quantities of ore, showing quite a large production of bullion. It is stated that a drift will shortly be run to the southeast, from the 700 level, with the expectation of cutting the east vein found in the Savage and Hale & Norcross claims.

MAMMOTH (White Pine), placed on the Board list during the past week, sold at $10 per share. The claim consists of 1,800 feet, divided into 20 shares to the foot at a par valuation of $100 per share. PHŒNIX (White Pine) sold at $4@6 per share. The FLOWERY Mining Co. (Washoe) recently elected the following Trustees: A. K. P. Harmon, President; J. H. Jones, Vice-President; A. H. Barker, Charles Hosmer and M. J. McDonald. T. W. Fenn was appointed Secretary and O. S. Carville, Superintendent. This stock sold during the week at $5@6 per share.

A CANARD.—"Pure liquors for medicinal purposes sold here." This sentence is conspicuously exhibited in the store windows and on the signboards of many spirit merchants, druggists and general dealers. The information it imparts would be invaluable if true, but unfortunately it is not. All the liquors of trade, foreign and domestic, are more or less adulterated. If a stimulant is needed in the hospital or the sick room, prudence dictates the selection of an article absolutely free from every deleterious element. There is only one such article in the market—"Drake's Plantation Bitters." The spirits of which they are in part composed is not an ordinary commercial staple, but a wholesome, rich, thoroughly rectified liquor, distilled from the sugar-cane for the proprietors of the Bitters by their own employees, on their own plantations in St. Thomas, and not to be obtained at any price from any other source. ***

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alpha Cons., Storey co., Nev., div. $2.....	Pay. June 19, 1868	
Amador Co., div. $6 per share.....	Payable March 10, 1869	
Almaden, Nevada, March 17, $5.....	April 23	May 3
Accidental, White Pine, March 30, 25c.....	April 30	May 30
Bacon, Storey co., Nev., div.....	Payable June 19, 1868	
Belcher, Storey co., Nev., March 15, $1....	April 17	May 3
Bullion, Storey co. Nev., March 24.....	Payable immediately	
Chollar-Potosi, div., $25.....	Payable Oct. 15, 1867	
Crown Point, dividend, $7 50.....	Payable Sept. 12	1868
Chloride Mt Tun., White Pine, Feb. 2, 50c..	Mar 13	Ap. 10
Coney, preferred Stock, div. 1½ per cent....	March 10, 1869	
Cherokee Flat, Butte co, March 1, $5.....	April 3	April 20
Cordillera, Mex., March 16, $1.....	April 20	May 10
Daney, Lyon co. Nev., March 8, $2.50.....	April 12	May 3
Douglas, White Pine.....	Annual Meeting April 12	
Empire M. & M., Nev., dividend $6. ..	Payable May 15, 1867	
Eureka, div. $5.....	Payable March 10, 1869	
El Tasite, Sonora, March 22, 5c.....	April 23	May 17
Folsom St. & Ft. Pt R. R March 13, $5...	April 13	April 30
Gould & Curry, div. $7.50.....	Payable May 15, 1867	
Gold Hill Q M & M—dividend. $7 50.....	Payable July 13, 1868	
Golden Rule, Tuolumne co, div. 50c ₹ sh...	Pay. Feb. 26, 1869	
Glenwood, El Dorado co., Feb 19, $25....	April 2	April 22
Hale & Norcross, div. $125.....	Sept. 16, 1867	
Hope Gravel, Nevada co., Feb. 24, $1....	March 29	April 19
Hidden Treasure, White Pine....	Annual Meeting April 5	
I X L, Alpine co., Jan. 19, $1 50.....	Feb. 27	April 5
Imperial, Storey co., Nev., div.....	Payable June 20, 1868	
Julia, Storey co., Nev., March 19, $2.50....	April 22	May 10
Kentuck, div., $20 per share.....	Payable Jan. 10, 1869	
Keystone.....	Meeting April 2	
Lyon M & M., El Dorado co., Mar 6, $1..	April 12	April 26
Mt. Tenabo, Lander co., Jan. 23, 75c.....	April 2	April 27
Maxwell, Amador co., Feb. 9, $1.....	March 13	April 1
Morning Star, Alpine co., March 3, $2....	April 5	April 20
Mohawk & Montreal, Nev. co., $3.....	March 31	April 16
North Star, dividend, $5.....	Payable Aug. 15, 1868	
North Amer. Wood P. Co., March 12, $1....	April 14	May 1
Occidental, div. $2.....	Payable March 2, 1869	
Overman, Storey co. Nev., March 20, $20...	April 23	May 8
Pacific Unassessable, div.....	Payable June 18, 1868	
Pacific, Coal, Contra Costa co., Mar. 20, $4..	Ap. 27	May 17
Rising Star, Idaho, Feb. 8, $5.....	March 31	April 3
Santiago, Silver City, dividend, $2 50...	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1.....	Payable Jan 5, 1869	
Star Creek, Nev., Feb. 26, $1.50.....	March 29	April 19
Savage, Virginia, Nev, dividend, $4..	Payable March 4, 1869	
Senator, Storey co., Nev., March 25, 50c...	May 1	May 28
Silver Sprout, Inyo co, March 25, 50c.....	May 1	May 28
San Buenta Ventura.....	Annual Meeting April 19	
Sierra Nevada, Storey co., March 15, $3....	April 17	May 3
Treasure Trove, Lander co., Feb. 15, 20c..	March 21	April 12
Troy Ledge, White Pine, March 16, 15c....	April 23	May 24
Troy Ledge, White Pine....	Annual Meeting, April 19	
Virginia & G. H. Water Co..Dividend, payable Mar. 10, 1869		
Williamantic, White Pine, March 22, $1....	April 24	May 12
Yellow Jacket, div., $5.....	Payable March 15, 1869	

Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, April 2, 1869.

	Bid.	Asked.
MISCELLANEOUS STOCKS.		
United States Bonds, 5 20s, 1865, '67, '68	$ 87	88
United States Bonds, 5 20s, 1864.....	87½	88½
United States Bonds, 5 20s, 1862.....	89	90
Legal Tender Notes.....	77	77½
California State Bonds, 7s, 1857.....	95	—
San Francisco Bonds, 10s, 1851.....	par	& int.
San Francisco City Bonds, 6s, 1855.....	—	—
San Francisco City and County Bonds, 6s, 1858.	83	87½
San Francisco School Bonds, 10s, 1860.....	100	—
San Francisco School Bonds, 10s, 1861.....	par	& int.
San Francisco City and Co. Sch'l B'ds, 7s, 1866.	91	—
San Francisco City and Co. Bonds, 7s, 1862....	91	—
San Francisco City and Co. Bonds, 7s, 1864....	91	—
San Francisco City and Co Bonds, 7s, 1865....	91	—
San Francisco City and Co. Judg. Bds. 7s, 1863.	91	—
San Francisco City and Co. Judg. Bds, 7s, 1864.	91	—
Sacramento City Bonds.....	20	—
Sacramento County Bonds, 6s.....	70	—
Marysville Bonds, 10s.....	75	80
Stockton City Bonds.....	65	—
Yuba County Bonds, 8s.....	80	85
Santa Clara County Bonds, 7s.....	76	77
Butte County Bonds, 10s, 1860.....	75	—
San Mateo County Bonds, 7s.....	75	80
California Steam Navigation Co.....	65	—
Spring Valley Water Co.....	67	68
State Telegraph Co.....	26	—
GAS COMPANIES.		
San Francisco Gas Co.....	77	79
Sacramento Gas Co.....	35	—
RAILROADS.		
Sacramento Valley Railroad.....	—	—
San Francisco and San Jose Railroad.....	—	—
Omnibus Railroad.....	72½	—
Central Railroad.....	60	—
North Beach and Mission Railroad.....	72½	74
Front Street, Mission and Ocean Railroad.....	12	12
BANKING INSTITUTIONS.		
Pacific Bank.....	97½	100
The Bank of California.....	157	160
People's Insurance Company.....	100	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co.....	98	100
Pacific Insurance Co.....	125	128
Merchants' Mutual Marine Insurance Co.....	500	520
California Insurance Co.....	1300	1400
Union Insurance Co.....	100	101
Home Mutual Insurance Co.....	19½	20
Occidental Insurance Co.....	85	90
MINING STOCKS—WASHOE DISTRICT.		
Alpha.....	30	30½
Baltimore American.....	—	—
Belcher.....	17	17½
Bullion, G. H.....	11	12
Crown Point.....	69	70
Gale (Va.).....	8	12
Confidence.....	32	34
Consolidated Virginia.....	5	5¼
Chollar-Potosi.....	179	180
Ouncy.....	2¼	2½
Exchequer.....	16	17
Empire Mill and Mining Co.....	50	70
Gould & Curry.....	113	114
Gold Hill Quartz.....	—	45
Hale & Norcross.....	88	89
Imperial.....	88	90
Julia.....	—	2½
Justice and Independent.....	—	10
Kentuck.....	276	277
Lady Bryan.....	16	16½
American.....	25	26
Occidental.....	27½	28
Ophir.....	33	34
Overman.....	58	59
Segregated Belcher.....	7½	8
Savage.....	76	77
Sierra Nevada.....	50	—
Union.....	—	—
United States.....	—	—
Yellow Jacket.....	87	67½
MISCELLANEOUS MINING STOCKS.		
Amador (California).....	285	290
Aurora, White Pine.....	—	25
Eureka, (California).....	2 0	240
Golden Chariot (Idaho).....	45	48
Silver Cord (Idaho).....	10	14
Golden Rule, California.....	10	12
Mohawk (California).....	—	—
Pocotillo, White Pine.....	10	—

A SINGULAR FACT.—A young man lived to the age of 25 before discovering that he was near-sighted. What a world of beauty opened up to him at once on a trial of a pair of Muller's Spectacles—205 Montgomery street. ***

San Francisco Market Rates.

Wholesale Prices.

	FRIDAY, April 2, 1869.
Flour, Extra, ₹ bbl.....	$5 25 @ $5 50
Do. Superfine.....	4 50 @ 4 75
Corn Meal, ₹ 100 lbs.....	3 25 @ 3 50
Wheat, ₹ 100 lbs.....	1 50 @ 1 65
Oats, ₹ 100 lbs.....	1 75 @ 2 05
Barley, ₹ 100 lbs.....	1 75 @ 2 10
Beans, ₹ 100 lbs.....	6 00 @ 7 00
Potatoes, ₹ 100 lbs.....	75 @ 90
Hay, ₹ ton.....	16 00 @ 18 00
Live Oak Wood, ₹ cord.....	9 00 @ 10 00
Beef, Bra., dressed, ₹ lb.....	11 @ 12
Sheep, on foot.....	3 00 @ 3 25
Hogs, on foot, ₹ lb.....	5 @ 7
Hogs, dressed, ₹ lb.....	9 @ 10

GROCERIES, ETC.

Sugar, crushed, ₹ lb.....	— @ 17½
Do. China.....	10 @ 12
Coffee, Costa Rica, ₹ lb.....	— @ 18
Do. Rio.....	16¾ @ 17
Tea, Japan, ₹ lb.....	75 @ 90
Do. Green.....	60 @ 1 25
Hawaiian Rice, ₹ lb.....	— @ 10
China Rice, ₹ lb.....	6 @ 7
Coal Oil, ₹ gallon.....	48 @ 50
Candles, ₹ lb.....	16 @ 18
Ranch Butter, ₹ lb.....	35 @ 40
Isthmus Butter, ₹ lb.....	37½ @ 42
Cheese, California, ₹ lb.....	15 @ 19
Eggs, ₹ dozen.....	25 @ 35
Lard, ₹ lb.....	14 @ 15
Ham and Bacon, ₹ lb.....	14 @ 15
Shoulders, ₹ lb.....	7 @ 8

Retail Prices.

Butter, California, fresh, ₹ lb.....	45 @ 50
do. pickled, ₹ lb.....	30 @ —
do. Oregon, ₹ lb.....	20 @ 25
do. New York, ₹ lb.....	35 @ 40
Cheese, ₹ lb.....	20 @ 5
Honey, ₹ lb.....	25 @ 30
Eggs, ₹ dozen.....	45 @ 50
Lard, ₹ lb.....	16 @ 18
Hams and Bacon, ₹ lb.....	23 @ 25
Cranberries, ₹ gallon.....	1 00 @ 1 25
Potatoes, Sweet, ₹ lb.....	3 @ 5
Tomatoes, ₹ lb.....	3 @ —
Onions, ₹ lb.....	3 @ —
Apples, No. 1, ₹ lb.....	4 @ 5
Pears, Table, ₹ lb.....	5 @ 6
Plums, dried, ₹ lb.....	10 @ 12
Peaches, dried, ₹ lb.....	10 @ 12
Oranges, ₹ dozen.....	75 @ —
Lemons, ₹ dozen.....	50 @ 75
Chickens, apiece.....	— @ 75
Turkeys, ₹ lb.....	25 @ 30
Soap, Pale and C. O.....	7 @ 12
Soap, Castile, ₹ lb.....	21 @ 27½

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, April 2, 1869.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₹ 100 lbs; Bar, 1@1½c ₹ lb; Sheet, polished, 3c ₹ lb; common, 1½@2½c ₹ lb; Plate, 1½c ₹ lb; Pipe, 1½c ₹ lb; Galvanized, 2½c ₹ lb.

Scotch and English Pig Iron ₹ ton.....	$— @ $45 00
White Pig Iron.....	35 00 @ 37 00
Refined Bar, bad assortment ₹ lb.....	03 @ —
Refined Bar, good assortment, ₹ lb.....	04 @ —
Boiler, No. 1 to 4.....	04½ @ —
Plate, No. 5 to 9.....	— @ — 04½
Sheet, No. 10 to 13.....	04½ @ — 5
Sheet, No. 14 to 20.....	05 @ — 5½
Sheet, No. 24 to 27.....	05 @ — 6½

COPPER.—Duty: Sheathing, 3½c ₹ lb; Pig and Bar, 2½c ₹ lb

Sheathing, ₹ lb.....	— @ — 26
Sheathing, Yellow.....	— 20 @ — 21
Sheathing, Old Yellow.....	— 10 @ — 11
Bolts.....	— 21 @ — 22
Composition Nails.....	— 21 @ — 22

TIN PLATES.—Duty: 25 ₹ cent. ad valorem.

Plates, Charcoal, IX, ₹ box.....	12 00 @ —
Plates, I C Charcoal.....	— @ 11 00
Roofing Plates.....	10 00 @ 10 50
Banca Tin, Slabs, ₹ lb.....	— @ 35
STEEL.—English Cast Steel, ₹ lb.....	— @ 15
QUICKSILVER.—₹ lb.....	55 @ 60
LEAD.—Pig, ₹ lb.....	7½ @ 8
Sheet.....	10 @ —
Pipe.....	11 @ —
Bar.....	05 @ 9½
ZINC.—Sheets, ₹ lb.....	10½ @ 11
BORAX.—California, ₹ lb.....	35 @ 38

Advertising and Subscription

Rates for the Mining and Scientific Press.

Subscriptions in Advance:—One year, $5; Six months, $3; Single copies, 15 cents; two Copies, 25 Cents. Monthly Series, $5 per annum.

Lowest Rates for Advertising:

We shall adhere to the following rates (payable in gold coin) for advertising in the MINING AND SCIENTIFIC PRESS from this date:

One column, one year.....	$400 00
Half column, one year.....	220 00
One column, six months.....	220 00
Half column, six months.....	115 00
One column, three months (13 weeks).....	110 00
Half column, three months.....	60 00
Per line (smallest type) one year.....	3 00
Per line (20 lines or more) one year.....	2 40
Per line, three months.....	1 00
Per line (10 lines or more) three months.....	80
Per line, one month (4 weeks).....	50
Per line (10 lines or more) one month.....	40
Per line, one week.....	25
Per line (10 lines or more) one week.....	15

Particular attention will be given to preparing engravings, inserting advertisements in conspicuous, novel and attractive form; we will otherwise assist advertisers in getting up their notices, when desired.

☞All advertisements in the PRESS appear in both the ☞MONTHLY AND QUARTERLY SERIES of the MINING AND ☞SCIENTIFIC PRESS, which (by special arrangement) are placed for FREE READING in the principal hotels, steamboat and steamship saloons, depots, and public libraries in San Francisco, and the Pacific States. Many ☞volumes are also bound, thus affording permanent advertising.

The PRESS now receives the largest and best advertising patronage of ANY WEEKLY PAPER west of the Rocky Mountains.

In regard to the value of advertising in our journal, we refer with pleasure to those who can speak from experience—*our advertisers*. Better referees, or more reliable names, cannot be found in the advertising columns of any newspaper in the world.. **DEWEY & CO.,**

Publishers and Patent Agents.

San Francisco, March 1, 1869.

SHIRTS.—Somebody has made the calculation that every shirt ultimately brings to the washerwoman twice as much as is realized by the producer of the cotton, the spinner and weaver of the cloth, and the maker of the shirt, all told, get to divide among themselves. The cost of washing all the shirts worn in the United State cannot be less than forty millions, annually!

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding months of delay requisite in transacting business through Eastern agencies.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

From the *Miner*, March 20th:

Imperial.—This tunnel was pushed ahead a distance of 16 feet last week.

The crushing and pulverizing machinery of the Monitor C. Mill are now ready to run, and further delay in starting the works is now only caused by the state of the roads, which prevents the delivery of flume lumber.

The proprietors of the Alpine tunnel, after several tests by assay, are now saving the rock as it comes out, believing that it will pay to work in mill.

Morning Star.—We hear a pleasant rumor on the streets that Mr. Kustel himself, who has just returned from Idaho, will soon come up and introduce his leaching process on Morning Star ores. The ores of the Rising Star mine, in Idaho, are very similar to those of our Morning Star.

In the Globe tunnel, this week, over a foot a shift has been made. This is more than double the rate of running heretofore made.

Chronicle, March 20th:

Pennsylvania Ledge Struck.—We congratulate all interested in Alpine county upon the striking of this mammoth ledge. The company, on the 6th instant, after nearly four years of hard work, struck their ledge, which is 8½ feet wide, of which four feet is solid quartz and the balance quartz boulders and decomposed quartz. The ore resembles that of the I X L, but the precions metals seem to be more evenly distributed. The ledge was struck at a distance of 918 feet from the mouth of the tunnel, and 500 feet from the surface. With the exception of the first 200 feet, the tunnel has been cut through hard granite the entire distance, to within 12 feet of the ledge, when they struck soft rock. After passing through the ledge, the tunnel cut through a seam of blueish clay 6 inches wide to the foot wall. From appearances, this mine promises to be one of the best.

Pittsburg.—The tunnel is being pushed ahead as rapidly as possible. It is now in about 720 feet, and it is thought that 80 feet further in it will strike the Dunkirk ledge, which is supposed to be an extension of the I X L.

From the experimental workings of the Morning Star ore, at the Markleeville mill, a ton of copper has been obtained.

AMADOR COUNTY.

Ledger, March 27th:

Alturas.—Forty-five tons of rock from this mine was crushed last week, and yielded over $40 to the ton. The shaft is now sunk to the depth of 60 feet, and the owners are erecting hoisting works.

Summit.—Work on this mine is being pushed night and day. The shaft is now over 200 feet deep, and the rock is of first class, yielding from $15 to $20 per ton. The machinery is perfect and kept in good order.

Casco.—The owners of thie mine are pushing the work on their shaft as fast as possihle, and are putting up a new engine of greater capacity.

CALAVERAS COUNTY.

Chronicle, March 27th:

We are informed that in Brackett & Co's claim, located in Tunnel Ridge, two pounds of gold were extracted last week.

Colby & Co., whose claim is located on the Old Woman's Gulch side of Tunnel Ridge, have their claim opened in good shape and are ready to commence active operations.

Shaw is still energetically striving to wash a hole through Stockton Ridge.

The Golden Gate Co. and Paul & Co. are also pushing operations with favorable results. Our mining interests are assuming a very promising aspect.

Work has been commenced on the old Union shaft in good earnest. A whim is being erected for the purpose of clearing the mine of water and hoisting the dirt. The proprietors, Messrs. Peters, Champion & Ahrnot, are all practical miners.

Lower Rich Gulch correspondence of same: The mining interest of Rich Gulch at the present time is rather dull. Alexander, Henry & Go. keep up the pounding in their batteries day and night, smashing up the rock and smashing out the gold, with a lead of ore nine feet in width, and managed in such a way that it is easily mined. The Palomo Co. is now erecting steam hoisting works.

EL DORADO COUNTY.

Placerville *Democrat*, March 27th:

New Ditch.—Mr. B. T. Hunt is having a survey made for a new ditch of large capacity to bring water st an altitude of 200 feet above the present Scuth Fork canal, to strike the South Fork of the American river in the vicinity of Brockliss' bridge. The altitude of the proposed ditch, we are told, will command a very large extent of good and permanent mining ground, which is now worthless for want of water. With this ditch completed the prospects of this city would be as hright as any place on the coast.

KERN COUNTY.

Havilah *Courier*, March 23d:

The McKeaduey mill is clattering away on rock from the Delphi miue. We are assured by Mr. Dalton, the present proprietor of the miue and mill, that within thirty days he will have taken out rock enough to keep the mill running night and day.

MARIPOSA COUNTY.

Gazette, March 26th:

The owners of the Washington mill, near Hornitos, cleaned up on the 14th instant, after two week's run, the sum of $2,775.

NEVADA COUNTY.

Transcript, March 24th: Mining operations have commenced in earnest. Since the late storm, Blue Tent, the latest locality to obtsin water, has ahnndance, and the miners are at work. At the Cascades one company is running 600 inches. From every quarter of the county we have good reports, and miners have great expectations for the season.

Rough and Ready.—The mining prospects in the vicinity of Rough and Ready are more encouraging than they have been for several years. We yesterday briefly alluded to the discovery of a nugget in the Racine claims owned by Miller & Co., on Squirrel Creek, weighing 16 ounces, and worth $300. In addition to this they took ont seven ounces of fine gold in three days. These claims were located ahout two months ago, and ever since they commenced working they have been taking out good wages. The hydraulic claims of Glidden & Co., and those of Rex & Barker are looking well. Dahle & Co's quartz mill has commenced running.

The Red Diamond at the Cascades, on Deer Creek, is turning out first-rate. The channel was reached on last Friday, and the first car load taken out yielded $20 in gold.

Same of 25th: Leavitt & Co. yesterday commenced washing in the Birchfield claims. They have just completed a fine flnme from Deer Creek, up Kelsey's Ravine, a half a mile in length.

Same of 28th:

The Red Jacket.—The Red Jacket Gravel Miniug Co. are about commencing work ou their claims. The channel is supposed to be a continuatiou of the channel which runs throngh Sucker Flat.

The Scandinavian Co. have commenced operations on their ledge, and are taking out fine looking rock, from a lode a foot and a half in thickuess. They have three arastras in operation.

At Mooney Flat the mining prospects are excellent. The miners have recently held a meeting for the purpose of making arrangements to open their claims, and it is thought they will commence a tunnel in the hill on the Deer Creek side.

Gazette, March 23d:

North Bloomfield Ditch.—On Tuesday the first installment of water from Little Cañon and North Poorman's creek arrived at the works of the North Bloomfield Gravel Mining Co. through their new ditch.

Grass Valley *Union*, March 26th:

Splendid Rock.—Yesterday, Capt. Lee brought in from the Empire mine, to Delano's banking house, a piece of quartz weighing about 80 pounds, that for richness in gold could hardly he excelled. Fine gold was distributed entirely through the rock, besides a good showing of sulphurets and galena. The lowest valuation of gold in the rock was placed at $800, and some estimated it as high as $1,200. The piece came from the 800-foot or present lowest working level of the Empire mine. From where this specimen came other rich quartz was blasted out yesterday morning, the estimated value of all being $2,000.

Garden City Claim.—The owners of this claim propose to give it a thorough prospectiug during the summer. We were shown several pieces of rock from it yesterday that looked well.

Same of 27th:

Rich Rock at the Empire.—Besides the rich rock taken from the Empire mine, on Thursday, of which we spoke in yesterday's issue, there was taken out during the day four car loads in all, from the same part of the ledge on the 800-foot level, worth $5,000.

The Rivot Process.—The company at Canada Hill have got the mammoth roaster in position, and set their machinery in motion. Every part works well.

Grass Valley *National*, March 24th:

The William Penn Mine, helow Hill's Ranch, is being energetically worked. Jas. Edwards & Co. have taken a contract to sink 100 feet, and are already down 38 ft., the shaft being 9x5½ feet in size. The ledge is from 18 inches to two feet thick, and is getting more solid.

PLUMAS COUNTY.

Quiucy *National*, March 20th:

Cherokee Items.—Bidwell & Co. are pushing ahead the work in their mine vigorously. They are running a branch tunnel from the lower or 150 foot level in the Caledonia, to the Dunlap lode, where they expect to find some rich rock. They were very near the ledge at last accounts. From their 100-ft. level the company are running a cross cut to what is known as the Big White lode. The rock prospects well, and some of it will be crushed in a short time. The Caledonia mill is running steadily, and doing well.

Jndkins & Kellogg's mill pounds along regnlarly, as usual, getting good pay. The rock in the lower level of their mine (recently opened), turns out to he good, and as they raise their shaft from the lower to the upper level, they find some extremely good paying quartz.

It is rnmored that the Bull Frog mill, near Rush Creek, will be started in a short time.

Cahalan's ledge proves to be a large one, his tunnel being over six ft. in quartz, and not throngh it yet. The rock prospects well.

SIERRA COUNTY.

Downieville *Messenger*, March 27th:

Gibsonville.—A friend informs us that water has begnn to start, and that in a short time the now well filled dump sheds will be empty, and a goodly quantity of precious metal in the pockets of the miners.

Port Wine.—Considerable excitement existed at Port Wine, owing to the striking of good pay in the Union mine. The owners were highly elated, and well they might he, some of their dirt paying ahout $5 to the car load.

Eureka and Morristown.—Water was just beginning to start, hut uot much work had been doue.

Howland Flat.—We recently visited the Union gravel mine. Plunging down the iucline in a car, we found a splendid tunnel called Broadway, dry with a douhle track, and with numerous evidences along the sides, that side tuunels had been run and the pay gravel taken ont. At the end we found workmen runuing the tunnel ahead and to the left to open a large quantity of new ground which is expected to pay well. The end of the tunnel is already supposed to be under pay, but will have to be carried some distance further to make a grade.

We learned that the Monumental claim was more than paying expenses. The Pittsburg is said to he paying moderately well.

SISKIYOU COUNTY.

Yreka *Union*, March 20th:

The United Quartz Co. had 35 tons of rock crushed this week at Dash & Co's mill. The yield was over $25 to the ton. Their claim on the Middle Fork of Humbug, is the same that was opened hy Isaac Ranck in 1852. They have sunk on the ledge to the depth of 90 ft. and have run two tunnels striking it at different levels. The ledge is over a foot in thickness and well defined.

Quartz on French Creek.—Ab. Spidell and Geo. Sanders have struck a quartz ledge on French Creek which promises well. It is ahont 12 inches in thickness and ahounds in gold visihle to the naked eye.

Etna Mining Claim.—They have struck the hedrock in this claim and expect soon to commence taking out money.

Oro Fino.—In this camp the miners have now an abnndance of water and all are busy at work. The ditches are full, caused by the melting of the snow hy the warm weather of the last two weeks. It is expected the mining season will he short there this year, but quite lively while it lasts.

TRINITY COUNTY.

Weaverville *Journal*, March 27th:

Northfork.—Accounts represent that some Frenchmen have found good mines on Yellow Jacket. The claims of J. Frutige and Henry Faubel are paying largely, and R. J. Holmes is drifting with first-rate success. Engle & Miller are at work in the quartz ledge on Rich Gulch, and have already taken out considerable rock for crushing. Some of the quartz which was taken to town and prospected in a mortar, yielded one dollar to the pound.

Rush Creek.—V. Chamberlin's claim is paying well, and there are three companies of Chiuese at work just below the mouth of the creek, who are helieved to be making money.

George W. Wood has extended his ditch some distance down the river, and will furnish water free of charge to all persons desirous of prospecting below it, until good pay is found.

TUOLUMNE COUNTY.

Sonora *Democrat*, March 27th:

The Eagle Mine.—For the past two months a full force of miners have heen employed on this mine getting out rock, and the mill was started a few days ago. We are informed that the rock on hand is very rich and that no donbt is entertained of the mine paying well. The Eagle is situated on Blue Gulch above Jacksonville.

French Bar.—A communication from this place, known also as Lagrange, says there is in that region a large extent of country known to be rich, which has never heen worked except hy rockers and rain water. A few are doing well. Kelly & Co. are taking out 160 ounces per week; Thursby & Co. are doing as well, while the claims of Messrs. Keogh, Rudolph and Thomas are patiently awaiting water.

On the East side of the river, the gravel hills do not seem to have been so well prospected; it is known, however, that they contain gold from the surface to the bedrock, and with snfficient fall. Between La Grange and the Crimea House, ahont fourteen miles, is a wild, broken country, whose gulches would furnish employment for hundreds of miners, if they had steady water. To the eastward, toward Don Pedros Bar, there is also a large extent of miuing ground yet unworked. One company there, Messrs. French and Brown, having had the forethought to build reservoirs, are now making from $10 to $15 per day to the hand, in '49 Gulch.

The attention of the Tuolumne County Water Co. has heen turned to the section described, and they are ahout instituting a survey to estimate the expenses of a ditch.

YUBA COUNTY.

Marysville *Appeal*, March 23d.

Brown's Valley.—It was reported in town yesterday that a rich ledge had boen etruck in the south drift of the Jefferson mine.

Same of 28th: We are informed hy a reliable person that very rich rock has been struck in the great ledge on which the Pennsylvania mill has been running for the last mouth—richer rock than ever beforo taken out of a mine in Brown's Valley.

ARIZONA.

From the Prescott *Miner*, March 6th:

Black Canon Diggings.—News from these diggings on Tuesday last, is quite favorable. We learned that the miners were making from $4 to $10 per day. Poland, Marsh & Co. had their ditch almost completed, and were confident that as soon as they commence washing they will make $20 a day to the hand. The proceeds of five pans of gravel from their claim weighed $1.70. It is certain that when properly worked, almost every bar on the creek will pay fair wages, and it is our opinion that rich creek claims will be struck whenever the creek hed can be prospected. If the hills on the west side of the creek are as rich as they are said to be, we have the best of reasons for believing that those ou the east side are still richer.

Lower Lynx Creek.—Late news from Jackson, Lovejoy & Co's hydraulic diggings on Lower Lynx Creek, eight miles east from Prescott, is quite cheering. Mr. Shoupe informs us that last week, after a run of 60 days,—three men working,—the sum of $360 was realized, which gives to each hand engaged $20 a day. On this same Lynx Creek there are miles of gravel hanks that will pay fully as well. Mr. Shonpe informs us that in an old channel in his claim, ahove Jackson & Co's, he has struck very rich dirt. His reservoir is nearly completed, and next week he expects to take out gold.

Same of 13th: Work is progressing at the Sterling. The Chase mine, in the tunnel, is looking well. Ore taken from it to San Francisco, by Mr. Noyes, yielded, hy working test, over $500 to the ton....On Saturday last, a letter from Theodore W. Boggs, who is opening the Independence mine, in Bug Bug district, stated that the lode opened fiuely, and was fully eleven ft. thick, with a rich pay streak, half the width of the ledge....C. C. Bean, of this place, has purchased the interest of A. Freuch, in several lodes in Walker's and Hassayampa district, for the sum of $4,000, and has sent a gang of men to Walker's to work the Tie-Tie, which is said to ho a very rich gold lode ...We have no placer miniug news this week, the miners being too busy at work to come to town....A letter of recent date from San Francisco, states that the Sterling Co. had secured the services of a No. 1 mining superintendent, and that he would leave in a few days for this

country....The news from Wickenburg, where the ore from the great Vulture mine is worked, is as of yore—both mills running night and day and paying well....At Gila City, Eureka, and other places in Yuma County, parties are working quartz, with what result we do not know.

BRITISH COLUMBIA.

Portland *Oregonian*, March 20th:

From the Kootenai Mines.—News has been received in this city, by letter, to the effect that a great many of the people in the neighborhood of Fort Colville have gone to the Kootenai mines during the winter and many more are going this spring. There is talk of opening a new trail to these mines as soon as the snows on the mountains shall be sufficiently melted to allow of work.

IDAHO.

Owyhee *Avalanche*, March 20th:

Ida Elmore.—The teams have been engaged hauling quartz for several days. A large quantity is now piled at the mill. The mine is now producing more ore than ever, of a very rich quality. The mill will be started up on Monday.

Mining Difficulty.—The rich placers of Calaveras Flat appear at present to be a huge bone of contention. Work is suspended and the vicinity is in a state of siege. The Henry Brothers, who have worked the claims for two or three seasons, are in possession. Messrs. Curlew, Brown, Woodward and others contend that the Henrys have not complied with the mining laws, and have, therefore, forfeited their tenure. We know nothing of the merits of the matter.

Crane & Driggs.—An assessment of $12 per share was levied upon the capital stock of the above company, payable on the 10th inst., at Portland. This mine is near the Golden Chariot. It was formerly worked by the Oregon Steam Navigation Co. There is a shaft 200 ft. deep, said to have produced some very rich ore. The prospects are that work will be resumed this spring.

Flint Items.—The Rising Star mill started on Thursday. The prospects are good....Black's mill will start up in a few days, on Astor rock.

Silver Cord.—We are informed by Mr. Jones, Superintendent, that the work on the mine is progressing finely. Hoisting works are to be erected early in the spring.

Idaho City *World*, March 11th:

Elk Horn.—From Mr. Mesick, we learn that the company have already about 400 tons of good ore for crushing, which was taken out of the ledge this winter. The quantity of snow on the mountain about the mill is not so large as was promised from weather indications a month ago, but yet good heads of water will be supplied to the ditches over on that side of the Basin for a fair season of mining.

Silver City *Tidal Wave*, March 19th: The Golden Chariot keeps up its lick in the yield of bullion, and is now in excellent shape for a good summer's work.

The road to the mines is becoming bare in many places, making the operation of quartz hauling rather difficult.

Same of 23d:

Rising Star.—Ten large bars, weighing nearly 500 lbs., and valued at $7,125 coin, or between $9,000 and $10,000 currency, were shipped by the Rising Star Company through Wells, Fargo & Co. to San Francisco yesterday morning.

NEVADA.

HUMBOLDT.

Register, March 20th:

Star District.—Joseph Organ has leased the Sheba mine, and is preparing for active operations. The Sheba ore is rich, some of it assaying as high as $8,000 per ton, but very refractory. It is the intention to ship the ore to San Francisco or to Swansea, for reduction.

On the National work has again commenced. A few years ago a large quantity of quartz from this mine was reduced, which paid from $30 to $250 per ton in gold. The ledge is large and well defined.

Humboldt can boast of as rich ore as can be found in the State of Nevada, or elsewhere. We will wager a hat that we can produce a specimen from the Grant mine, in Indian district, as rich in silver as any piece of its size in the State. Test to be made and bet to be decided by an assayer in Virginia City or Gold Hill. Who wants it?

The shaft on the Sixty-nine ledge is now 60 feet deep, and the vein is well defined and three feet wide. The average yield of eight different assays of the ore was $150 per ton.

T. G. Negus shipped this week, by the Pacific Union Express, from his mine at Golconda, 1,116 ounces of bullion, valued at $1,500.

The Little Giant Co., at Battle Mountain, shipped two bars, valued at $1,800.

The Silver Mining Co. shipped this week 4,103 ounces of bullion.

REESE RIVER.

Austin *Reveille*, March 25th:

Belmont.—Three bars of bullion from Col. Buel's mill, at Belmont, were brought into this city by the stage which arrived last night.

Mountain Champion, March 20th:

Belmont—We are informed that the Company's mill will remain closed until the White Pine excitement subsides a little, when it is presumed that it will be possible to obtain miners who will work steadily at fair wages. Considering the fact that this last run on Transylvania ore has yielded $257 per ton, it is to be regretted that men have become so wild with the White Pine fever as to compel the company to suspend operations for the want of laborers.

Stone Cabin Range.—Late last evening Mr. Reed arrived in town with two and a half tons of beautiful ore from the Seneca mine, in the Stone Cabin Range, 15 miles to the south of this place, which experts say will work from $300 to $400 per ton.

El Dorado South.—Notwithstanding the scarcity of laborers work progresses, and the ore being raised is as rich as heretofore.

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

Territorial Enterprise, March 23d:

The Justice and Independent are finding excellent ore. An assay of rock from the west vein at the 160-foot level, yielded at the rate of $600 per ton, and the average appears to have improved.

On the Belcher work is being vigorously prosecuted. No strike has been made, though small veins and stringers of good ore have been found.

On the Sacramento we understand that work will be resumed shortly. The ore will be crushed in the Summit mill.

Same of 24th:

The Yellow Jacket mine is looking exceedingly well.

Same of 25th:

The Ophir drift west from 700-foot level of the new shaft is in over 100 feet. The rock encountered is very hard, but about two or three feet a day are made.

The Savage mine is yielding at the rate of over 1,000 tons a week of ore averaging nearly $40 per ton.

Hale & Norcross.—The shaft of the upper works is being retimbered between the 175 and 300-foot levels. At the new shaft the lower level is yielding large quantities of excellent milling ore.

Same of 26th:

The Sierra Nevada Co. have struck in their car tunnel the same deposit of rich rock and dirt that they have above. The rock which is being extracted is exceedingly rich.

Same of 28th:

The Gould & Curry repairs being completed, resumed work night before last. When the pump started the accumulated water in the shaft measured 320 feet in depth; yet the company expect to be able to clear it within three days. The pump works splendidly.

The Occidental Co. yesterday sent to Gold Hill for melting and assay 400 pounds of crude bullion, the result of their last week's run. This lot of bullion will yield, it is thought, nearly $12,000.

Crown Point.—It will take several days yet to make the necessary repairs to the main shaft, when the drift east at the 1,100-foot level will be proceeded with again.

The Adriatic is again attracting attention. They now have out at their mine about 150 tons of good milling ore, with plenty more in sight and conveniently situated for extraction.

Imperial-Empire.—The new cable for the shaft is now in use. It is of the best English steel and wider and better in every respect than the old one. During the delay occasioned by the breaking of the old cable the water accumulated in the shaft to the depth of 100 feet. It will probably be hailed out to-day.

Gold Hill *News*, March 24th:

Chollar-Potosi.—The rock in the drift east at the 1,240 foot level from the shaft grows harder as the drift advances. It is pretty good blasting ground, however, and satisfactory progress is made.

Jayhawk and Bilkemall.—The Mohawk and Montreal Consolidated Gold and Silver Mining Co. have postponed the time for declaring delinquent their last assessment of $3 per share until March 31. The reason probably is that the stockholders are beginning to lose faith in the management.

Carson *Appeal*, March 25th:

Some excitement occurred hereabout yesterday, occasioned by the reported discovery of rich gold and silver bearing quartz a few miles south of Empire City, and about eight miles from Carson in a southeastly direction. Extravagant reports were in circulation, to the effect that it was a new White Pine, and that 1,000 persons were on the ground seeking for good locations. A German who came direct from there to Carson, last evening exhibited to us a specimen of the outcropping of the rock, and asserted there were several hundred persons there who would camp upon the ground, and that the excitement among them was very great. We have no further particulars.

WHITE PINE.

[The latest items of news and information from this district will be found on another page.]

WYOMING.

Sweetwater *Mines*, March 10th: We have been informed that on the 4th inst. a very rich lodge was discovered in the California district, by Mr. Soles. No name has been given it yet, but prospecting and development is going ahead. Several ledges have been discovered close around this town during the present month, that promise to turn out something good.

Frank Zerrener, superintendent of the Young America mine, is increasing his force of men, and will probably in a month or two have some 60 or 70 hands employed.

A shaft is down on the Golden Leaf ledge 35 feet, and very rich ore is being taken out of a crevice averaging about 24 inches in thickness. A specimen we saw was sticking full of free gold.

The Bed of Sweetwater River.—"N. L. T." writes that he prospected the banks of the stream a little last summer, and found everywhere from one to three cents to the pan; but that he was prevented from doing anything further by the Indian scare. He says: "I believe, and so do others, that good pay can be found on bed-rock, in Sweetwater, below the cañon, and probably very rich diggings. It will require persons with some capital to test it, as doubtless it is deep to bedrock. There is ample work on this stream for 100,000 persons, provided it should pay. Gold can be found in the bars and along the edges of the water all the way to the mouth."

Baron Von Reichenbach, Again.—A physician writes to the Dublin *Journal of Medicine* in support of the notion that people sleep much better with their heads to the north. He has tried the experiment in case of sick persons with marked effect, and insists that there are known to exist great electrical currents, always crossing in one direction around the earth, and that our nervous systems are in some mysterious way connected with this electrical agent. Baron Von Reichenbach's book on the "Odic Force," published some years ago, detailed a large number of cases which occurred in the practice of the author, where abnormally sensitive individuals were benefited, and in some cases cured, by acting upon this idea. The Baron urged that the bodies of the patients should coincide with the axis of the earth, in order that the current of terrestial electricity which is constantly passing round the earth at right angles to that axis, might have no disturbing effect upon the analogous current of animal electricity which is as constantly passing around the axis of the patient,—of which axis the head and feet are the poles.

The Railroad and the Indians.—The impression seems to prevail that the Indians will not make any serious attempts to interfere with the operation of the Overland Railroad. The Reno *Crescent* thinks the "Iron Horse" will do more to subdue the Indians in one season than all our forts and Indian armies could do in many years; and adds the following paragraph, which, although it contains a deal of fancy, no doubt conveys much of fact: "The savage can combat with his pale-faced brother man to man; he knows the pale face, like himself, is vulnerable and mortal; but in the iron steed there is a something incomprehensible. He hears the roar of the iron chariot wheels, the shriek of the whistle, the clang of the bell, and the hoarse respiration of this fiend. He sees it move forward and backward at will, with speed that puts to shame the swiftest rider of the plains, and his spirit is humbled and his courage cowed."

The Earth.—Although there are at least sixty-three chemical elements known to exist in the earth, yet one of these, oxygen, forms nearly or quite one-half of its entire bulk, so far as known to man; two other elements silicon and alumiaum form about a quarter—leaving but one-quarter more to be made up from all the remaining sixty original elements. The next, in order, most abundant elements are probably calcium, iron, carbon, hydrogen, nitrogen, etc. While the metallic elements are far the most numerous, the non-metallic are much the most abundant in quantity. The metallic elements are characterized for sameness, the non-metallic for variety in qualities. The idea that the earth was once in a gaseous condition is greatly confirmed by the fact that about half the known substance of the globe, by weight, may be rendered gaseous at ordinary temperatures. The difference in density between the heaviest known elements is as 1 to 257,000—platinum representing the former and hydrogen the latter. The sun is known to have an almost infinite number of elements—the spectroscope develops at least 1,000.

Gold Excitement in Scotland.—A gold placer has recently been discovered along the banks and bed of a creek on a farm tenanted by a Mr. Rutherford, on lands belonging to the Duke of Sutherland, in Scotland. About 150 miners were, at last accounts, at work there, including several experienced returned Australians. Some $200 worth of gold had been purchased by a neighboring jeweler. Gold has been found there in very limited quantities ever since the days of James the First, and the Duke has still in his possession a ring made of gold found there some thirty years ago.

A Boston Notion—Monster Concert.—The Bostonians are making arrangements for a series of monster concerts, to take place on the 15th, 16th and 17th of June next, at which there will be one thousand instrumental performers, and a chorus of twenty thousand voices, mainly selected from the public schools. A temporary building is to be erected for the occasion, and the President and other dignitaries, as well as the Governors of the States, will be invited. The secret of the whole matter is the suppositious inference that the crowd of strangers which will visit the city on the occasion, will leave about $8,000,000 at the "hub."

Illustrated Trade Circulars are rapidly increasing among manufacturing establishments in the East, and will soon become popular on this coast. We have recently received a good sized catalogue, published some time since by W. T. Garratt, brass founder, on Fremont street, which contains illustrations of many articles in his line.

Water vs. Land Transportation.—It appears from a memorial recently addressed to the New Jersey Legislature, that more than half of all the goods transported between New York and Philadelphia, are carried by the circuitous sea route, in preference to the more direct land route; and this, notwithstanding there are two distinct lines of railway and an inland water route by way of the Delaware river and Raritan Canal.

Large Map of Mexico.—Colton, of New York, has just issued a large wall map of Mexico, including all the country round the Gulf, about 4x4 feet in dimensions. On the margin are smaller maps of Spain and Cuba. It is a useful map, but contains nothing new or topographically than is given in Colton's complete atlas of some years ago.

San Jose is unquestionably the best governed city in California. It is not only free from debt, but has $50,000 invested in county bonds.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:

Saturday Morning, April 3, 1869.

Notices to Correspondents.

"MAT OF THE MINT."—The wear of gold coin underwent an elaborate investigation from 1798 to 1801, the conductors being the celebrated chemists, Hatchett and Cavendish. The report occupies 150 pages of the "Philosophicel Transactions" for the year 1803. From the experiments made, the reporters declared that only two metals were adapted to alloy with gold, in order to increase the durability of the latter, viz., copper and silver. One of the experiments consisted of a given number of coins composed of various alloye, being placed in a square box. Into this were placed forty pieces of coin of equal size and weight, but varied alloy, all, however, being what is known as fine gold, or 22 carats fine—22 gold and 2 alloy. The box was made to rotate on its axie, so that the coins rubbed against each other. It was found on examining the contents of the box after having been rotated 71,720 times, that the alloy of silver and copper, euch as used formerly for coinage at the English mint, was more durable, or less diminished by abrasion, than the fine gold *alloyed by silver alone*, or that *alloyed* by copper alone; the loss in the first case being found only to amount to 1-230th part, and in the second, to about 1-29th part. Yet it is a fact that the English Government is in the constant practice of melting up its old sovereigns and guineas, composed of the first named, and more durable alloy, and replacing these old coins with gold alloyed with copper alone. We believe all European governments now follow the same practice, and the United States mint also. In the second column of page 195, of our last number, will be found a brief account of some recent experiments in the alloy of silver by the officers of the French mint, by which, for reasons there given, it is recommended that silver coin should be alloyed as follows: 835 parts silver, 93 copper, and 72 zinc. If all civilized nations would agree to employ the above proportione of alloys respectively, for silver and gold coins, great economy would result in their wastage.

VISALIA.—The carp, says Isaac Walton, "is the queen of the rivers." Had be said ponds, the old angler would have been nearer the mark. There can be no doubt but that both carp and tench, if introduced, would flourish well in the upper parts of the San Joaquin, and add much to the luxuries of the neighboring districts.

S. C. W., Timbuctoo.—The article inquired about, relative to the "uniting of zinc with quicksilver for the purpose of increasing the affinity for gold," was perhaps d'Henreuse's zinc process; or an item of ours describing several simple methods of getting zinc out of quicksilver. Find out the date, or page.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

Separation of Bullion in Bars without Granulation.

A patent for this mode of separatiog gold from silver was applied for in 1865, by John Reynolds, a boiler in Kellogg, Heuston & Co's refinery in this city. It was a return to first principles, known and practiced in the separation of metals for a hundred years; but not being the general practice at the time, or since granulation had got into practice as an approved preliminary operation, (in order, theoreticelly, to present so much larger a surface for the acid to work upon,) this patent was allowed, somewhat to the surprise of other experts in the business, who had not thought of such a thing as a patent in so simple a matter. It is in the mein, merely for putting the bullion bar at once into sulphuric acid, instead of pouring it first into water to granulate, and then putting it in. Separation of gold and silver, or "refining," is done at the Mint with nitric acid in porcelain vessels set to boiling by steam, as iron pots would be destroyed by the nitric acid; and a common fire cannot be used for heating because it would crack the porcelain vessels. The reason why nitric acid is in use, —so much more expensive and even less efficient than sulphuric acid—is because the mints are usually in town, and the fumes of the latter acid cannot be tolerated there. Sulphuric acid admits of the use of iron vessels, and of the most violent boiling, by a direct coal fire. Hence sulphuric acid is used wherever the circumstances admit.

A ber of silver bullion cast into boiling sulphuric acid of the proper density, dissolves "like butter," figuratively speaking, leaving the gold in a brown sediment at the bottom. Reynolds noted this fact—and that it was not at all necessary to granulate in the process with sulphuric acid, but that, on the contrary, the separation would be more rapid and thorough without it, rendering the intermediate melting likewise unnecessary.

The cause of this difference in favor of bars was for some time a puzzle; but there are two good reasons assigned for it. One is that, in treating granulated bullion, as the silver rises into solution and the gold thickens at the bottom, the latter partially covers up some silver-holding grains, and prevents the acid from operating upon them. This can be prevented by stirring. The other reason is a theoretical one, which, however, is believed by the Philadelphia mint refiners to be founded in fact, viz: that in pouring melted bullion into cold water, the sudden chilling is attended by a tendency on the part of some of the golden particles in the alloy, to come to the surface of the granule. Thus the latter gets coated to a degree, (scarcely or not at all perceptible, it is true), by the richer metal, which is impervious to acid, hindering the process of separation.

Assayers and refiners feign that they would pay little or no attention to Reynold's patent if they had any occasion to separate buttons or bars by the use of sulphuric acid. Whether at law the Patent Office would be sustained in the matter, is a question that need not be entered into in this connection. To furnish an idea of the exact neture of Reynold's patent, we quote from the document itself. The inventor says:

"I take a charge of crude bullion of any convenient weight (a pot which in working by the old process would work a charge of from 130 to 140 pounds, will in working by my improved process work from 300 to 400 pounds) and place it on the bottom of an iron pot, adding a sufficient amount of sulphuric acid to cover the said charge of bullion, and boil the whole mass together for about one hour, after which I add more sulphuric acid, from time to time, as may be necessary, until the silver and baser metals are all dissolved and held in solution in the acid, the whole amount of acid required being generally about equal in weight to the charge of crude bullion in the pot.

The time necessary for boiling will very according to the heat applied; the usual time being from four to five hours.

The acid holding in solution the silver and baser metals is then drawn off or bailed into a tank lined with lead, leaving the gold settled in the bottom of the pot, where it is washed with hot sulphuric acid, in order to remove as much of the sulphate of silver remaining as possible.

I then place the gold in a filter corresponding in size to the amount of gold to be treated, where hot water is poured over it until it is perfectly sweetened, that is, until no trace of sulphate of silver or acid can be found in the water as it runs away from the gold. It is then pressed and dried, after which it is melted and molded into ingots or bars, whose fineness will be found to be from .992 to .994½.

The tank into which the solution of silver and baser metals is drawn off is supplied with a perforated lead pipe, through which steam is introduced for heating purposes, as in the method now in common use. It is then drawn off into a precipitator in which heat is kept up by means of steam passing through a closed lead pipe passing through the said precipitator. Copper is now introduced, as in the old process, which precipitates the silver in metallic state of fineness varying from .995 to .998.

The copper remaining in solution is then drawn off into the copper house, where it is converted into crystals by the methods now well known and in common use in refineries.

Some of the advantages to be derived from my improved process of "refining gold and silver bullion," may be enumerated as follows:

First—The melting and alloying with copper and granulating before treating with sulphuric acid, are rendered entirely unnecessary.

Second—By my process, gold from .992 to .994½ fine is produced by the first treatment, whereas by the old process with one treatment, gold of the fineness of only .950 to .970 is produced, rendering it necessary oftentimes to go through the process two and even three times before the gold can be brought up to a fineness of .992 or .994; thus increasing more than double the expense required by my improved process of refining.

Third—Close returns can be made by my process every day, whereas two or three days or more are required in order to make close returns by the old process.

The claim is for "the improved method of refining gold and silver bullion in bars or bricks, or any other shape, whereby the necessity of melting and alloying with copper and granulating before refining is obviated, substantially as described."

MRS. HALL'S SMELTING FURNACE.—The *Alta* inquires what has become of the Volcano Smelting Furnace invented some years ago by Mrs. E. J. Hall, and highly spoken of at the time of its trial in this city, in 1864. The inventor is in this city, and anxious to furnish those interested in smelting with data to judge of the value of her invention. In principle Mrs. Hall's furnace is an attempt to solve an interesting and important problem to the metallurgist—to smelt reductively in such a manner as to prevent sulphides from forming a matte product (or sulphur-metal), by desulphurizing and reducing the matte as fast as formed. In ordinary smelting there are two ways of desulphurizing matte; the simplest, and the kind practiced in assaying, is to throw in iron, which has a greater affinity for sulphur, and therefore takes it to itself; but the cheaper and more generally practiced is a separate treatment of the matte, in which grinding and roasting are finally resorted to as the only thorough means of accomplishing the desired result —the oxygen of the air in that case carrying it off. Mrs. Hall endeavors, by confining the whole in an egg-shaped furnace supplied with powerful blasts and having a comparatively small flue, to burn out the sulphur with charcoal, in the form of gaseous sulphides of carbon, and SO^2 as fast as it combines with liquid products at the bottom. Having seen only a drawing, we are not able to furnish further details at present.

MORE FOSSIL DWARFS.—Mr. Busk has discovered in Malta, a species of dwarf fossil elephant only 2½ to 3 feet high. Dr. Falconer has found another about 4¼ feet in hight.

"Mad Stones"—What are They?

The public is frequently treated to newspaper paragraphs, alluding to remarkable cures of the bites of mad animals, and poisonous reptiles and insects, by what are termed "mad stones." The subject has been revived in this city, the past week, by correspondence in two of our dailies, from one of which we learn that we have one of these wonderful "Stones" in San Francisco. During our newspaper reading, for the past ten years, we have been curious to collect, among other matters, such accounts of these "mad stones" as have come under our observation. The reports all agree as to their wonderful effects; but differ very widely in the description of the so-called "stones." Thinking it may interest some of our readers, we have collated the following items from our clippings, from which it will appear that any person may become possessed of a "mad stone," equal to the best, at a trifling cost or trouble:

Carlos Johnson, of Warwick county, Indiana, is in possession of one of these remarkable stones, which was originally brought from England; this specimen is a specics of pumice stone, very porous and of greenish color.

Mrs. Baugh, Valparaiso, Ind., has one which was recently shown to Professor Wyhe, of the State University, of Bloomington, Ind., who immediately produced a counterpart of the same from the University collection of minerals, and which was there classified as a corel of the genus *astrea*. This stone was a portion of one originally brought from England by the mother of Mrs. B's husband, who, at his death, divided it into three pieces, and gave one each to his three children.

Mrs. W. Bundy, of Martinsville, Ind., has one which has also been pronounced by Professor Wyhe to be an astrea corel.

The late John King, of Richmond, Va., had one in his possession about twenty years, from the application of which wonderful cures are claimed, but the stone is not described.

Dr. R. H. Ayres, Jackson, Tenn., has one of a cubical shape, containing about seven cubic inches of matter, and which, from the description, we presume must be an astrea coral.

Mrs. Taylor, Terre Haute, Ind., has one which has been in her family eighty years, and which is described as being "white, smooth, hard, with star-shaped pores, two inches in length by three-quarters thick," most probably another astrea coral, with one of its surfaces ground smooth.

Col. B. Lee Milam, Waterford, Marshall County, Miss., has one (the same as described in the *Herald* of Monday last) about the size of a hen's egg, one end of which is flat, as if sawed off across the grain, having very much the appearance of wood or bone, said to have been brought from China, by Dr. Barker, in 1810. Has been offered $5,000 for it; will sell it for $10,000; and well he might, as he could probably produce a counterpart equally good for five dollars.

The publication of the description of the above, brought out Dr. Horst, of this city, who keeps an apothecary store corner of Eddy and Taylor streets, and who has one which closely answers the above description, which he obtained, as a great favor, from an Abysinian chief, during his travels in that country. We have carefully examined the same, which is undoubtedly a piece of petrified bone, cut across the grain.

There are said to be several so-called "stones" in Southern Virginia, which are of undoubted animal origin, pronounced by some to be portions of the rennet of some animal, whether dried or fossilized, we are not told.

We have descriptions of quite a number of others, in different parts of the country,

to the use of all of which are ascribed wonderful cures.

From the above it must be inferred that there is no uniformity in the material of which those "stones" are composed. The accounts given of the circumstances attending their assumed cures also lead us to infer that there generally has been no virus injected into the persons of those upon whom the cures are supposed to have been made, and that in most cases other remedies were also used, from which probably more benefit was derived than from the "mad stone." It is possible that the porous substances used may have some effect in extracting the virus, when applied instantly; but any one substance of equal porosity with another would, no doubt, be equally as efficacious. There is also a possibility that when the stones are composed of coral the carbonate of lime may have a chemical effect in neutralizing the virus, which is generally of an acid nature; but such an effect could not result from the use of pumice stone, or of fossil organic substances, where the original material has been replaced with silica. The adhesive character of lymphatic discharges from a slight wound will generally cause any porous substance to adhere, if promptly applied.

In view of the above, we believe that any person who thinks he may have been bitten by a mad animal or venomous reptile, would be much more likely to obtain relief from the application of ammonia, a poultice of tobacco and soap, or an application of bromide of potassium, with a free use of strong alcoholic stimulants, than to rely upon the supposed virtues of a "mad stone." A piece of light dry bread would be more efficacious than a "mad stone," made from a petrified bone.

Industrial Enterprises.

A RUBBER FACTORY, says the *Herald* of the 31st, is about to be established in this city; an agent or superintendent and raw material being now on the way from the East. Not only the caoutchouc tree, but the gum of the asclepias, euphorbia, poppy, lettuce, and chicory plants, will furnish elastic material suitable for manufacturing purposes; and the company proposes to introduce the cultivation of one of these. California uses large quantities of rubber goods. The consumption in the United States amounts to about $8,000,000, the capital invested in the manufacture being about $5,000,000.

CALIFORNIA ALE AND PORTER.—Mr. Samuel Marks has established a brewery at the corner of Folsom and Fourteenth streets, which produces an article pronounced by the *Alta* reporter to be superior to, while it is cheaper than "Barclay & Perkins." The chief point of difference between the manufacture of ale and lagor is, that the beer is generally ready for use in two or three days, while ale requires two weeks.

COÖPERATIVE WINE MAKING.—The Wine Makers' Association of Los Angeles presents a successful example of the coöperative principle applied to wine making, and to the relief of vintners from exclusion by isolation. The company has two storehouses of stone and brick. One is above ground, 42x270 feet, and the other is a half basement, 40x90 feet. It has on hand 150,000 gallons of wine and 60,000 gallons of brandy. Its superintendent, M. Emile Vaché, is a Frenchman, and he makes Sherry, Madeira, Port and brandy. Grapes are bought at 75 cents to $1, those of shareholders having preference. Every workman employed is a stockholder. It has a house in San Francisco, and divides 25 per cent. per annum on its capital of $50,000, with assurance of improvement.

CANVASSING FOR THE OROVILLE WOOLEN MILL.—The Oroville *Record* of March 27th says of this mill enterprise: Berry, of San Francisco, visited Oroville on Thursday, and canvassed the subject of a woolen mill for Oroville, with many of our citizens. The prospect is fair for the erection of a woolen mill here, most of our citizens viewing it favorably.

THE OAKLAND COTTON FACTORY has changed hands, and been converted into a bag factory. The demand for grain bags, etc., this season, will not fall much short of twelve million in number. From 700 to 800 pounds of manila jute have been ordered shipped, at an outlay of $75,000.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & CO., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

FOR THE WEEK ENDING FEBRUARY 16th.

86,898.—IMPROVED WASHING FLUID.—Jas. Bell, Sonora Cal.:

I claim the above described composition for washing fluid made of the ingredients enumerated mixed or compounded in about the proportions specified.

This compound is intended for general use in washing, and is claimed to be superior for softening hard water and rendering the water suitable for cleansing purposes.

86,931.—IMPROVEMENT IN WINDING RATCHET TIME PIECES.—Wm. H. Lamb, San Francisco, Cal.:

1. I claim the disk D, operating in the indentions of the ratchet wheel B, and impinging against the plate or equivalent device for preventing the wheel from turning backward, substantially as described.

2. Forming the wheel B, with indentions C, C, C, to fit the circular shape of the disk, and holding the said disk between the incline F, and the wheel by means of the spring E, substantially as described for the purpose set forth.

The nature of this invention is to provide a ratchet for time piece, so constructed that it cannot be wound the wrong way up, winding the pieces, and thereby breaking the teeth of the ratchet wheel in the ordinary construction of time pieces. The inventor is a practical watchmaker, of long residence in this city.

86,932.—IMPROVEMENT IN BRICK ELEVATOR. Thos. Mann, San Francisco, Cal. (Antedated Feb. 1st, 1869.)

1. I claim the gates C, C, sliding on the ways B, B, B, B, operated by the ropes or cords G, K, K′, and pulleys and blocks H, J, J′, L, substantially as and for the purpose set forth.

2. The peculiar construction of the brake M, with the sweep O, operating in the slot P, so that the driver may hold the gates in position, while the horse is changing his direction of travel, substantially as described.

3. The books S, S, for attaching the hods to the gates, substantially as described.

This is an improved device for hoisting brick and mortar for building purposes, and is intended to be employed after the first or lower story has been constructed. It consists of a frame which is well braced, having vertical posts or ways on which gates slide up and down. The gates are constructed so as to admit the hauging upon them of mortar and brick hods. While one gate is ascending on one side with loaded hods, the opposite gate is descending with empty hods, by means of cords passing over a pulley at the top of the frame. The inventor is now a resident of Portland, Oregon.

87,020.—IMPROVED MOTIVE POWER FOR SEWING AND OTHER MACHINES.—Jacob Zuckermann, San Francisco, Cal.:

I claim the motive power consisting of the frame, the series of semi-elliptic springs D, connected at their ends by hinge joints, in combination with the spirally grooved fusee G, the fusee and the springs being connected by means of the chains, the gear wheels, shafts, belt and brake, the whole constructed and arranged substantially as and for the purpose set forth.

The object of this invention is to provide an improved motive power for light machines, and more particularly for sewing machines. The device is applicable to any of the machines for sewing, giving the requisite motion, by being occasionally wound up. It consists of a series of gear wheels operated by a series of semi-elliptic springs united at each end by hinged joints, and so arranged that the power exerted upon the machine will be uniform. The number of parts liable to get out of order are few, while the machine can be constructed very cheaply. A company of capitalists in New York have engaged to manufacture and introduce the machines into use.

87,077.—IMPROVEMENT IN ELEVATED RAILWAYS.—Wm. A. Sutton, New York, and Eugene Crowell, San Francisco, Cal.:

1. I claim the combination of the sprocket wheel C, and brake applied to hold the same with the endless rope B, having knots, collars, or protuberances b, on it essentially as herein set forth.

2. The rope-lifter constructed substantially as described, of a sheave c, carried by a lever I, which is pivoted to a rack J, operated by a pinion K, essentially as herein set forth.

3. The combination with a rope lifter constructed to operate substantially as described of the sprocket wheel C, arranged to have a sliding motion or lateral adjustment relative to the rope, essentially as specified.

4. The rope take-off or shifter e, L, in combination with the sprocket wheel C, arranged to have lateral adjustment relatively to the rope, substantially as described.

87,082.—IMPROVEMENT IN FOLDING CARD GLOBE.—Dennis Townsend, Fiddletown, Cal.:

1. I claim a flexible, expansible and compressible geographical or manographical globe; when made of a series of quadrantoo triangles, substantially as described.

2. Also a coating or covering for the superfices of a collapsible hemispbere, when figured and made of one piece in quadrantal triangles, joined at or near a common apex, substantially as and for the purpose described.

3, Also combining the two halves of the superfices of a globe on an equational line by means of a joint between each pair of quadrantal triangles, substantially as and for the purposes specified.

4. Also the combination of folding ligatures with the quadrantal triangle, substantially as and for the specified purpose.

5. Also in combination with the flexible globe, the bow spring for expanding it substantially as described.

6. Also the combiuation by attachment of a compressible globe with the eover of a book or with a base confined witbin such covers.

Issued February 9th:

86,840.—IMPROVEMENT IN DRIERS.—C. Kaibel, Sacramento, Cal.:

1. I claim the stationary caps C, C, and perforated hollow shaft E, in combination with the perforated drum B, and fan-blower G, substantially as and for the purpose described.

2. The arrangement and eombination of the furnace A, Blower G, caps C, C, C′, C, drums B, B′, perforated bollow-sbaft E, E′, trunk I, discharge-tube J, all substantially as and for the purpose set forth.

The inclined trough L, in the lower part of the furnace A, in eombination with the perforated drums B, B′, substantially as and for tbe purpose set forth.

Issued February 23d:

87,260.—TIRE-UPSETTER.—William M. Hughes, San Francisco, Cal.:

I claim the combination of the parts I, I, plate J, tbe clamp E, the wheel and eccentric F, the compound F, eccentric H, the handles A, A, lever G, and cams or eccentrics B, B, substantially as shown for the purposes specified.

Brief Hints to Inventors.

The assignee of every invention may have the patent issue to him directly, when he is the purchaser of the entire interest; or the patent may issue in the joint names of the inventor and assignee, the inventor himself being one of the assignees.

The application must be made by the actual inventor, if alive; but if the inventor be dead, it may be made by his executors.

A working model is always desirable to enable the office to determine its precise operation. The name of the inventor and also of the assignee, if assigned, must be fixed upon it in a permanent manner.

What is really embraced in the original invention, and so described or shown that it might have been embraced in the original patent, may be the subject of a reissue.

The mere fact of prior invention abroad will not prevent the granting of a patent, unless the invention had been described in some printed publication.

When the patent is applied for in the United States, after being obtained abroad, it will extend only fourteen years from the date of the foreign patent.

Patentees or assignees are required to affix the date of the patent on each article vended or offered for sale, under a penalty of not less than one hundred dollars.

Every assignment should be recorded in the Patent Office within three months from its date.

If old materials and old principles are used in a state of combination to produce a new result, the inventor may obtain a valid patent for such result.

When an application has been rejected, the inventor may manufacture his invention for two years, with the privilege of renewing his application within that time, if he so desires.

The inventor or inventors must sign the petition and claims, the latter to be attested by two witnesses, also take the required oath before some authorized person.

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O. M. TAYLOR, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office without fail.

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The mine is located in the midst of an exteasive mining region, on the western slope of a range of mountains closely resembling in topography and geology, the western slope of the Sierra Nevada of this State.

At the time of the purchase of the property it had been extensively worked by native proprietors for more than a century, chiefly by open cuttings, and with varied results and reported profits; but a considerable outlay having been found necessary to increase the resources of the mine, the company worked at a loss during the first four years of its possession. In 1839, the returns exceeded the outlay; but the original capital having been exhausted by the losses incurred at the St. John d'El Rey mines, and the purchase of the Morro Velho property, it was found necessary to apply the greater portion of the proceeds of the gold extracted to the extension of plant, and it was not until 1842 that the first dividend was declared.

From that date, with the exception of an interval of eighteen months on one occasion and twelve months on another, during which the working of the most productive portion of the lode was interrupted by a breakage of the pumping and other machinery, the company has regularly paid dividends every six months.

The origiaal paid up capital of the company was $642,000, since which time $540,000 has been laid out in machinery, etc., which with stores on hand valued at $200,000, and a reserved workiag fund of $360,000, makes the total working investment of $1,742,000.

The total value of the precious metals extracted from this mine, up to 1847, was about $15,000,000; tons of ore raised, 1,770,000: total average yield $8.47 per ton. Everything that comes from the mine is recorded as ore, and weighed. It is all assorted, however, and about 24 per cent. thrown aside as second class, and worked separately. From the above figures, it will be seen that it costs $5.64 per ton to raise and crush the ore, leaving a net profit of $2.83. The bullion from this miae carries about 20 per cent. of silver. The profits of the mine are steadily increasing, as is also the yield of the ore, as is shown by the average yearly yield per ton for the eighteen years from 1848 to 1865 inclusive. For the niae years previous to 1857, theaverage yield was 3.98 oitavas per ton. for the next succeeding nine years the average was 4.71 oitavas. This improvement, however, is in a great measure attributable to the improved mode of treatment, which has been gradually introduced into the milling processes.

The company has six mills in operatioa for reducing its first class ore, running from nine to thirty-six stamps each, and aggregating in all 135. The average daily duty of each stamp is 2,666 pounds. The company employs 2,400 hands, about 130 of whom are Europeans.

The sands of the first-class ore, after passing through the batteries, are conveyed to a second series of mills where they are mixed with the second class ore, and again put through other mills, in which are employed 56 stamps.

The formation affording the gold is a strong well defined lode, though irregular in direction, dip and dimeasions; its inclination or underlie has also been found to vary at different depths, and in different parts of its extent. The vein stone is mostly

composed of quartz with iron pyrites, disseminated, more or less regularly, throughout its mass, and the lode is not unfrequently traversed by clay slate and barren white quartz. When pyrites are absent in these rocks, gold is seldom present. Arsensical, magnetic, and ordinary iron pyrites predominate at different points, and in varying quantities; carbonate of lime; dolomite, brown spar, and, very rarely, copper pyrites, are also present in the vein.

In some places the vein is cavernous, and less close in its texture than in others; but where drusy cavities are frequent the yield of gold diminishes. The most productive matrix for gold is a compact mixture of quartz and pyrites, with varying quantities of slate. The average thickness at the present depth, 176 fathoms perpendicular, is 19 feet. The stoping place extends over 807 square fathoms. The enclosing rock is a clay-slate of tolerably uniform texture. The shafts, so called, for the whole of the lode has been excavated from the surface, are carried down at an inclination of about 45°, and the mineral is brought to the surface by tram carriages of a peculiar construction, carrying large kibbes, containing a ton each. The mineral brought to the surface is first freed from slate and other unproductive stone on the spalling floors, and the ore, after being broken to a uniform size, is stamped fine. The rejected slate and quartz is removed by tramways to another establishment, (the second series of mills above mentioned) half a mile distant, and there employed to assist in the further pulverization of the refuse sand from the first stamping, which is re-stamped.

The stamping mills, as is also the pumping and other machinery, are moved by water power. The pulverized ore issuing from the stamp coffers, through finely-perforated copper grates, passes over bullock skins, in the first instance, and lower down the inclined tables, over woolen cloths. The bullock skins are taken up and washed in vats every hour, and the woolen cloths at longer intervals. The concentrated sand resulting from washing the bullock skins is subsequently amalgamated in barrels.

METHOD OF MOUNTING DRAWINGS AND MAPS.—Provide a large drawing-box or a pine table, or the floor of an empty apartment will answer—in fact, any flat wooden surface that is larger than the drawing or map you are about to back. Next you will require a good paste, that will neither decay nor become moldy; therefore, mix good clean flour with cold water into a thick paste well blended together, then add boiling water, stirring well up until it is of a consistency that can be easily and smoothly spread with a brush; add to this a spoonful or two of brown sugar, a little corrosive sublimate, and about half a dozen drops of oil of lavender, and you will have a paste fit to fasten the teeth in a saw. Cut the backing muslin, which should not be too heavy, a size larger than the drawing or map, wet it with fresh water, stretch it out well, tacking the edges lightly round to the board or floor, so as to keep it flat as possible; then while it is damp go over it evenly with the paste, dabbing and rubbing it in well with the brush, but at the same time not too thickly; next damp the chart thoroughly with a sponge on the back; when it looks dull, roll it up on a clean mop-handle or round ruler, press the outer edge firmly down on one end of the pasted muslin, unroll the remainder evenly along the muslin, smoothing it down as you go with a clean, soft, dry cloth; go carefully round the edges, pressing all down; should any air bubbles get between, prick them with a strong needle, and press the spot down immediately; let the whole become gradually and thoroughly dry before you remove it from the stretch; when it is, cut the linen even with the edges, and have them bound round with narrow crimson or blue ribbon. With some large drawings or maps, that are on extra strong paper, a narrow strip of linen pasted round the edges on the back will be sufficient.—*Am. Artisan.*

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Resources and Developments.

PROFIT OF SHEEP RAISING.—E. J. Harding, of Marion County, says the Willamet (Oregon) *Farmer*, of March 15th, about four years ago, purchased 300 head of ewes for $400. Since then he has sold 100 wethers in different small lots; has used mutton largely in his own family; sold last summer to the amount of $500 from the flock; has now sold $1,162.50 worth of sheep, and has 200 head left. In addition to these sums is the amounts, not given, which have been realized from wool. Such results justify Mr. Harding in saying that sheep had proved the most profitable stock to him.

CALIFORNIA FIG CULTURE.—The culture of the fig in California promises to become one of the most lucrative branches of horticulture in the State. The Folsom *Telegraph* says in regard to the fig culture in that vicinity, that Messrs. Humphrey & Berry, of Folsom, are planting out an orchard of fig trees at Mormon Island. They have already four hundred rooted trees in the ground, and are rooting six hundred more. The trees were rooted by J. F. Davol, in Folsom, the slips being from several Smyrna fig trees growing in Davol's garden, which produce a large, luscious brown fig, nearly double the size of the common black, and when cured and boxed, superior to the ordinary fig of commerce. The fig grows splendidly here in the foothills, and already the young figs of this variety are appearing upon the trees.

SOUTHERN RECUPERATION.—According to the Augusta *Chronicle*, the present cotton crop of Georgia will yield from $30,000,000 to $40,000,000 in gold. Mr. Fourney, who is making a Southern tour, writes from Raleigh: "The estimated value of the cotton crop for the last year, including the recent advance in price, is over $520,000,000, a fact which certainly dispels the idea of prolonged poverty, and refutes the cruel accusation that the freedmen will not work. North Carolina alone has raised nearly $15,000,000. At this rate the South will be richer in a few years than she has ever been."

LAND in the agricultural districts attracts increased attention. Buyers are visiting lots and ranches that are in the market, and all the local land offices are full of business. The stream to the southern counties continues, and is overflowing into Tulare Valley. At the Visalia Land Office there was sold in March, over 240,000 acres. There is plenty left, however, the bulk of the even sections in the railroad grant for 150 miles being untouched. In San Francisco and Sacramento, real estate is brisk; at Marysville there is a "fever" still prevailing. At the Olympia Land Office, W. T., there were sold for cash, in January, 6,745 acres, in February, 9,729 acres, about half being for speculative purposes. Real estate in all the towns on Puget Sound has appreciated one half within a year. A buyer from Illinois informs us that land of equal quality and market facilities in that State, can be bought fifty per cent. cheaper than in California.

RESOURCES OF RENO.—A correspondent of the Reno *Crescent*, says that a large field for the employment of capital exists in and about the new town of Reno. Messrs. Fogus & Howell, will have their flour mill in operation in a short time, to be driven by water from the Truckee, along whose banks, within the distance of a few miles one hundred mill sites might be found. The correspondent thinks metallurgical works should be put up there for working the richer or more stubborn ores of Nevada, which might be readily transported to that place from points along the line of the Pacific Railroad. Various kinds of manufacturing operations might be profitably established there. An iron foundry and machine shop will soon be needed, etc., etc. The correspondent adds that a bright future is in store for Reno, the natural advantages of which are greater than those of any other place along the line of the railroad from the summit of the Sierras to Salt Lake.

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NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the **10th, 17th and 30th** of each month that has **30** days.

On the **10th, 18th and 30th** of each month that has **31** days.

When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 17th falls on Sunday, they will leave on the Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departure of the 17th or 18th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

The following Steamships will be dispatched on dates as given below:

April 10th—CONSTITUTION.....Capt. Wm. H. Hudson, Connecting with ALASKA, Capt. Gray

April 17th—GOLDEN CITY.....Capt. Wm. F. Laridge, Connecting with HENRY CHAUNCEY, Capt. Connor.

April 30th—MONTANA.....Capt E. S. Farnsworth, Connecting with ARIZONA, Capt. Marry.

Passengers berthed through. Baggage checked through. One hundred pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets to Liverpool by the "Inman" and "National" Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—If desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

For Merchandise and Freight to New York and Way Ports, Company's Form of Bill Lading only used.

No Freight will be received on board after 2 P. M. of the day prior to the steamer's departure.

The Steamship GREAT REPUBLIC, Capt. J. M. Cavarly, will be dispatched for HONGKONG on MONDAY, April 5th, 1869, at noon, connecting at YOKOHAMA with the steamer NEW YORK, for SHANGHAI.

For passage, freight and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

No Branch Office.

Our friends and patrons will bear in mind that we have no branch office in San Francisco, our U. S. and Foreign Patent Agency rooms being suitably arranged with our MINING AND SCIENTIFIC PRESS printing office, at No. 414 Clay street. We have no partners in business except the undersigned. DEWEY & CO.

A. T. DEWEY. W. B. EWER.

HAYWARD & COLEMAN

IMPORTERS AND REFINERS

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PAINT OILS,

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SUPERIOR GOODS! REDUCED RATES!

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SUCCESSORS TO

Heuston, Hastings & Co.,

SAN FRANCISCO AND NEW YORK,

Announce to the friends of the old firm, and the public at large, that their present business arrangements are such that they are enabled to offer the best and most stylish goods on the Pacific Coast at a great reduction from former prices.

AT WHOLESALE.

The attention of the merchants throughout the Pacific Coast, is called to the fact that we are now prepared to fill their orders for superior goods in

Strictly Custom-Made Clothing,
Suits, Gloves, Hosiery, and
Furnishing Goods, Trunks,
Traveling Bags and Valises,

In lots to suit at regular wholesale rates.

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Successors to

HEUSTON, HASTINGS & CO.,

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A California Discovery.

This is a simple but very efficient FLEA POWDER.

It is Death to Fleas and Vermin, but not injurious to persons.

TRY IT! TRY IT!! TRY IT!!!

After a thorough test you will use none other.

PUT UP IN BOXES ONLY. FOUR SIZES.

It is the best and cheapest article of the kind ever offered to the public.

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For sale, wholesale and retail, by Druggists.

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Prof. C. E. JAYCOX,
Care of Langley & Crowell, Druggists,
8v18-3m San Francisco.

Offices to Let.

Two convenient front rooms (No. 9 and 10) in second story of No. 423 Washington street, to let on favorable terms Apply at this office, up stairs. No. 414 Clay street.

White Pine Mining Companies.

The routine, in Nevada mining, is at once to form a Company, including of necessity some responsible names, and to incorporate the same at so many shares and a good round capital, with many nonghts representing the tens, hundreds and thousands that are to be brought to daylight from earth's slimy and ignoble crevices, to reward those who, on faith duly founded, pay out small amounts of cash for stock. While this wealth is but theoretical, and these shining millions are absolutely all yet unborn, in point of fact, notwithstanding our numerous Eberhardts, it cannot be denied that the machinery of forming companies, and of incorporating, is an aid to the development of new and unproved mines. It is unreasonable therefore to condemn a company merely because it has but little to show of results, or to draw a pen ruthlessly through these figures in any given case;—for the latter, to our way of explaining it, must be taken as a poetical expression of a profound sense of nature's underground wealth, and *figurative* acknowledgement of God's munificence in depositing the same under our very feet, where we may get it. We extract the following from the *Bulletin:*

The first companies were incorporated in December last, when 11 filed their certificates. In January this number was more than doubled, 26 companies having been incorporated in that month. February showed an increase of 100 per cent. over January, 52 certificates having been filed. The number of incorporations thus far for March is 80, or nearly as many as were incorporated in the three previous months. The total number to date is 169, representing a paper capital of $246,884,000, divided into 2,330,061 shares. The Consolidated Eberhardt and the Eberhardt Mill and Mining Companies have the largest capitals, namely, $10,000,000 and $12,000,000 respectively. The complete list of White Pine mining incorporations organized in this city to date, so far as we have been able to perfect it, is as follows:

Name.	Incorporated*	Shares.	Capital.
Aurora Consolidated	Dec. 11.	16,000	$1,600,000
Appleton M. M. & Tun. Co	Feb. 18.	40,000	4 000,000
Ascendant.	Feb. 19.	13,000	1,300,000
Accidental.	March 6.	4,000	400,000
Astor.	March 9.	10,000	1,000,000
Argyle Tunnel and M.	March 15.	14,400	1,440,000
Albemarle.	March 21	12,000	1,200,000
Alexander.	March 23.	10,000	1,000,000
Alhambra.	March 23.	12,000	1,200,000
Belcher	Dec 2	10,000	1,000,000
Bismarck.	Jan. 19.	2,000	200,000
Brodt.	Jan 29.	10,000	500,000
Banner State.	Feb. 18.	10,000	1,000,000
Bowden.	Feb. 26.	10,000	1,000,000
Bromide Tunnel.	Feb. 27.	30,000	3,000,000
Blue Rose.	Feb. 27.	15,000	804,000
Badger.	Feb. 27	6,000	1,000,000
Bromide Flat.	March 2.	50,000	5,000,000
Black Hawk.	March 3.	5,000	500,000
Beale Street.	March 3.	5,000	1,500,000
Benjamin Franklin.	March 5.	12,000	1,200,000
Black Diamond	March 6	4,000	400,000
Blue Eagle.	March 16.	6,000	600,000
California White Pine.	Dec. 17	15,000	1,500,000
Consolidated Chloride Flat	Dec. 23.	50,000	5,000,000
Chloride Flat & Aurora Tun.	Dec. 25.	10,000	1,000,000
Continental.	Dec. 26	10,000	5,000,000
Cayuga Chief.	Jan. 27.	12,000	1,200,000
California.	Jan. 29.	15,000	1,500,000
Chloride Mountain & Tunnel.	Feb 1.	5,000	500,000
Chloride Gold and Silver.	Feb. 8.	4,800	480,000
Chloride Flat Lode and Tun.	Feb. 17.	10,000	1,000, 00
Crown Lode and Tunnel.		10,000	1,000, 00
Cliff Lode and Tunnel.	Feb. 18.	10,000	1,000,000
Cortez.	Feb. 22.	24,000	2,400,000
Capital.	March 2.	60,000	6,000,000
Chloride Range Cons. & Tun.	March 5.	54,000	5,000,000
College Mining.	March 8.	20,000	2,000,000
Carrington.	March 14.	12,000	1,200,000
Charles Sumner.	March 16	6,000	600,000
Consolidated Eberhardt	Dec 1.	10,000	10,000,000
Douglass.	Jan. 11	320	32,000
Diamond Silver	Jan. 15.	14,400	1,440,000
Dolomite Consolidated.	Jan. 21.	5,000	500,000
Dinero.	Feb. 10.	7,500	750,000
Dandee.	Feb. 18.	10,000	1,000,000
Daniel Webster.	Feb. 24.	12,000	1,200,000
Day Star.	March 4.	16,000	1,600,000
Dave William son & M.	March 22.	8,000	800,000
Dora and Chauncey Cons.	March 9.	12, 00	1,200,000
Eclipse Chloride Flat.	Feb 3.	50,000	5,000,000
Eastern Slope Tun. and Min'g.	Feb. 7.	10,000	1,000,000
Etna.	Feb. 18.	10,000	1,000,000
Edith.	Feb. 18.	10,000	1,000,000
Eglesion & Brown.	March 5.	10,000	1,000,000
Eberhardt Mill and Mining.	March 5.	120,000	12,000,000
Estelle No. 2.	March 25.	12,000	1,200,000
Eureka.	March 25.	10,000	1,000,000
Empire.	March 14.	8,000	800,000
Five-Forty.	Feb. 25.	12,000	1,200,000
Featherstone.	Jan. 26	14,900	1,490,000
Florence Mining & Tunnel.	March 24.	10,000	1,000,000
Georgia.	March 3.	14,400	1,440,000
Germania Consolidated.	March 18.	20,000	1,000,000
Grant Invincible.	March 21.	8,000	800,000
Great Republic.	March 25.	10,000	1,000,000
Goleonda.	Jan. 25.	8,000	800,000
Great Union M. & T.	March 11.	60,000	6,000,000
Hidden Treasure Cons.	March 21.	12,000	1,200,000
Hornet.	March 25.	10,000	1,000,000
Hegret Mining.	March 8.	30,000	3,000,000
Holcombe.	Jan. 25.	8,000	800,000
Ida.	Jan. 23.	3,200	320,000
Ion.	Feb. 13.	14, 00	1,400,000
Independence Cons.	March 18.	20,000	2,000,000
Imperial.	March 25.	10,000	1,000,000
Kewanee.	Feb. 16.	8,000	800,000
Knox Tunnel and Mining.	Feb. 2.	4,000	400,000
Letitia and Poote Cons.	Feb. 17.	14,000	1,400,000
Little River.	Feb. 27.	5,000	1,500,000
Louisiana.	Feb. 27.	20,000	2,0 0,000
La Belle.	March 24.	25,000	500,000
Lucky Lodge.	March 18.	20,000	1,000,000
Latowana.	March 18.	19,200	1,920,000
Lexington Mill and Mining.	Jan. 29.	16,000	1,600,000
Monte Cristo.	Dec. 4.	14,000	1,400,000
Name.	Incorporated*	Shares.	Capital.
Maid of Saragossa	Dec. 31.	20,000	2,000,000
Monroe.	Jan. 11.	10,000	1,000,000
Metropolitan M. & M.	Jan. 17.	10,000	1,000,000
Mantonomah.	Feb. 5.	4,800	480,000
Magenta.	Feb. 8.	14,401	1,440,000
Marion.	Feb. 11.	10,000	1,000,000
Mammoth.	Feb. 16.	36,000	3,600,000
Main Street.	March 3.	5,000	1,500,000
May Wentworth.	March 13.	10,000	1,000,000
Mount Moriah.	March 21.	6,000	300,000
Mazeppa.	March 9.	8,000	800,000
Mocking Bird.	March 5.	14,000	1,400,000
Noonday.	Jan. 24.	20,000	2,000,000
New Era Gold and Silver.	March 8.	10,000	1,000,000
North Star.	March 15.	20,000	1,000,000
Nantucket.	March 17.	12,000	1,200,000
North America.	March 14.	12,000	1,200,000
Original Hidden Treasure.	Feb. 2.	16,000	1,600,000
Omega.	Feb. 12.	8,000	800,000
Obispo.	March 1.	7,200	720,000
Original Champion M. & T.	March 6.	15,000	1,500,000
Oakland North.	March 14.	6,000	6 0,000
Opal Silver.	March 14.	1,000	1,000,000
Pocotillo.	Dec. 21.	1,000	800,000
Peck.	Jan. 25.	1,000	100,000
Palmer.	Jan. 28	4,000	4,000 0
Phil Sheridan.	Feb. 4.	10,000	1,000,000
Pogonip Flat Consol.	Feb 5.	12,000	1,200,000
Pennsylvania Tun. & Min'g.	Feb. 13.	10,000	1,000,000
Pacific Consolidated.	Feb. 20.	2,000	2,000,000
Phoenix.	Feb. 27.	16,000	80,000
Pioche Shaft.	March 5.	10,000	1,000,000
Pick and Shovel.	March 11.	10,000	1,000,000
Pauline.	March 14.	12,000	1,200,000
Philadelphia Brewery.	March 15.	18,000	1,800,000
Pilot.	March 15.	24,000	2,400,000
Pride of the West.	March 25.	10,000	1,000,000
Raven.	Feb. 16.	8,000	800,000
Red Jacket.	March 12.	10,000	1,000,000
Rathbun.	March 4.	16,000	1,600,000
Russia.	March 29.	44,000	4,400,000
Scott.	Jan. 15.	200	18,000
South Virginia	Jan. 22	16,000	1,600,000
S. Francisco and White Pine.	Jan. 29.	6,000	600,000
Silver Cord.	Feb. 1	12,000	1,200,000
S. F and Treasure City.	Feb. 1.	20,000	1,000,000
South Aurora.	Feb 3.	24,000	2,400,000
Silver Terrace.	Feb. 25.	10,000	1,000,000
Salt Point.	Feb. 26.	10,000	1,000,000
Silver Comet M., M. & T.	March 2.	16,000	1,600,000
Stuart Street.	March 3.	5,000	1,500,000
Silver Moon.	Feb. 27.	16,000	800,000
Summit.	March 6.	8,000	80,000
Silver Eagle.	March 9.	8,000	800,000
Silver Star Cons.	March 11.	5,200	520,000
Snow Flake.	March 14.	11 000	1,100,000
South Eberhardt M. & M.	March 15.	14,400	1,440,000
Silverware.	March 23.	2 ,000	2,000,000
Silver Key Boring & Mining.	March 24.	6,000	600,000
Somerville Silver Ledge.	March 24.	1,400	140,000
Silver Crown.	March 25.	10,000	1,000,000
Silver Star.	March 25.	10,000	1,000,000
Silver Mint.	March 29.	10,000	5,000,000
Troy Ledge.	Jan. 12.	1 ,000	1,2 0,000
Tesse.	Jan. 25.	1,000	100,000
Treasure Trove Consol.	Jan. 27.	5,200	5 0,000
Uhlenea.	Feb. 16.	12,000	1,200,000
Tabasaca.	Feb. 18.	7,500	750, 00
Treasure Hill Consolidated.	Feb. 24.	50,000	5,000,000
Treasure Hill Tunnel.	Feb. 25.	20,000	2,000,000
The Brothers.	Feb. 27.	5,000	1,500,000
Tidal Wave.	March 3.	1,000	1,000,000
Treasure Box.	March 8.	20,000	2,000,000
Treasure Peak Cons.	March 22.	14,000	7,00,000
Virginia.	Dec. 1.	16,000	1,600,000
Virginia No 2.	Jan. 19.	8,000	800,000
White Pine Smelting.	Jan. 19.	5 000	50,000
White Pine Mutual Mill.	Jan. 19.	10,000	1,000,000
Wells.	Feb. 5	10,000	1,000,000
Williamsaic.	Feb. 24.	4,000	1,000,000
White Pine Associates.	March 8.	11	11,000
Washington.	March 14.	5,000	2,500,000
West Eberhardt T. & M.	March 15.	12,000	1,200,000
Totals		2,330,061	$246,884,000

*The names of the Trustees of these Companies can be ascertained from the files of the MINING AND SCIENTIFIC PRESS. December 1, 1868, is the date of the first incorporation.

New Inventions.

BARLOW'S "INSIDE BOILER."—Mr. E. T. Barlow, of No. 116 Third street, has invented and patented through this office, a device which housewives will appreciate, and which he calls an "inside boiler;" the object being to liberate vegetables or meats which have been boiled, from the water used, without the necessity of picking out the material piecemeal, or straining afterwards. It is nothing more than a perforated tin pail, which fits into the inside of the boiler or pot. When lifted out with the matter cooked, the water or soup remains in the pot. A curious fact in connection with its use is that the pot is not so liable to boil over as ordinarily.

A MAGNETIC MOTOR.—The Oakland *News* speaks of an invention in that place whereby a clock is kept in regular motion by means of etationary magnets. The inventor is about to apply for a patent for the same.

IMPROVED BALL AND SOCKET JOINT.—The Nevada *Transcript* speaks favorably of the operation of an improved ball and socket joint, for hydraulic hose-pipe, in use at Sargent & Jacobs' mine, at Quaker Hill, where there are two of them at work. We presume it consists of a device similar to that in use at the San Francisco Water Co's works, near this city, and also to one inventod by Messrs. Craig & Sons, herctofore noticed in these columns. The successful introduction of such an invention as this must prove of much importance in hydraulic mining.

DRILL SHARPENER.—The Sonora *Democrat* has seen a model of what that paper calls a "Buck," designed to save labor in sharpening drills. It consists of an inclined cast-iron plane attached to an anvil block filled with notches in which one end of the drill rests, while the other lays in a notch made in the anvil, thus doing away with the necessity of holding a drill in the hand while sharpening it. In sharpening long drills, it will do away with one man's work entirely. Mr. Hamill, the inventor, has taken the necessary measures to procure a patent.

WINDOW GLASS BLOWERS command about the highest wages paid for labor. Some workmen in the Atlantic States receive as high as from $10 to $15 per day.

To Mining Secretaries.

THE NEW COMBINED

Stock Ledger and Journal,

The most simplified form that has ever yet been offered to the public, is now ready, for sale. This one book is a complete abbreviation of the old Ledger, Journal and Transfer Book, and therefore takes the place of the three.

Stock Incorporations

Now organizing are invited to examine this Book before buying the old style.

JOHN G. HODGE & CO.,
Importers and Wholesale Stationers,
327, 329 and 331 Sansome street, cor. Sacramento.
10w18-10p

Star Creek Mining Company.—Location: Star District, Humboldt County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the twenty-sixth day of February, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Babb, L H	unissued	6	20	$40 00
Bates, A B, Att'y	unissued	10	143	214 50
Davis, Erwin	unissued	2	776	1164 00
Davison, R S, Ally	unissued	9	200	300 00
Fankner, George	unissued	12	1000	1500 00
Leni, Wm M	unissued	1	530	795 00
Levingston, Isaac	unissued	8	108	162 00
Mjnury, Charles	unissued	7	101	150 00
Morrison, S S	unissued	5	100	150 00
Phelan, James	unissued	11	72	108 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-sixth day of February, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the nineteenth day of April, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HORACE MORRISON, Secretary.
Office, N. E. cor. Front and Jackson streets. ap3

New Mining Advertisements.

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-third day of January, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Baum, Charles	12	20	$15 00
Baum, Charles	63	50	37 50
Borel, F A	79	200	150 00
Borel, F A	81	100	75 00
Borel, F A	83	50	37 50
Borel, F A	84	50	37 50
Borel, F A	122	207	155 25
Durning, Charles	55	100	75 00
Gorodo, John	18	75	56 25
Gallagher, James	50	100	75 00
Hardy, Thomas	21	300	225 00
Lehmann, Chr	24	5	3 75
Leavitt, John	25	250	187 50
Murdock, C A	105	100	75 00
Murdock, C A	106	150	112 50
Murdock, C A	120	39	29 25
Probst, Ernst	137	3	2 25
Vandervoort, J C	28	50	37 50
Wentzell, Justus	133	2	1 50
Wilson, E	96	50	37 50

And in accordance with law, and an order of the Board of Trustees, made on the twenty-third day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, California, on the twenty-seventh day of April, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N VAN BRUNT, Secretary.
Office 426 Montgomery street, San Francisco. ap3

Mining Notices--Continued.

Cordillera Gold and Silver Mining Company.— Morelos District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twentieth (20th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 24th day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary.
Office, 321 Washington street, San Francisco. mar20

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of March, 1869, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the sixth (6th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of April, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
Office, Room 37 New Merchants' Exchange, California street, San Francisco. mar13

Pacific Coal Mining Company, Contra Costa County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of March, 1869, an assessment of four dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventeenth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. LACHMAN, Secretary.
Office, southeast corner Market and First streets, San Francisco. mar27

I. X. L. Gold and Silver Mining Company.— Location of Mine: Silver Mountain District, Alpine County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of January, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
John A Johnson	283	1	$1 50
J S Adams	23	5	7 50
J S Adams	325	2	3 00
J S S Robinson	322	5	7 50
Mary C Bridges	260	12½	18 75
Catherine Jones	144	30	45 00
Catherine Jones	155	17	25 50
Catherine Jones	238	5	7 50
T B Clark	375	10	15 00
T B Clark	386	22½	33 75
E M Long	354	10	15 00
C Goodell	248	15	22 50
C Goodell	342	5	7 50
Wm Davidson	340	5	7 50
Wm Davidson	74	½	75
Ann Hogan	176	7	10 50
Charles Fisk	150	5	7 50
W J Thomas	371	3	4 50
Daniel H Dickinson	291	10	15 00
Daniel Dickinson	359	10	15 00
L E Wahlburg	277	5	7 50
Henry Jardine	188	5	7 50
Henry Jardine	304	3	4 50
Henry Jardine	330	12½	18 75
Henry Jardine	331	5	7 50
Henry Jardine	334	15	22 50
Hepburn James	16	5	7 50
Hepburn James	168	5	7 50
Hepburn James	217	10	15 00
A Wagner	207	5	7 50
Chas Saunders	224	5	7 50
Carolino A Nelson	293	2	3 00
George Brown	229	10	15 00
James Wyllett	234	5	7 50
H T Bjiske	380	4½	6 40
Louis Blanding	237	28	42 00
John G Slavin	254	1	1 50
Henry Ehn	301	3	4 50
Henry Ehn	387	7½	11 25
E F Gibson	270	12	18 00
E F Gibson	271	12	18 00
E F Gibson	274	5	7 50
E F Gibson	302	3	4 50
Wm Jones	246	3	4 50
John Cairns	249	70	105 00
John Bolis	381	10	15 00
John Cairns	256	8	12 00
D C Riddle	258	5	7 50
Julius Zabel	259	5	7 50
H D Scott	260	5	7 50
J A McMahon	263	7	10 50
R K Love	275	5	7 50
R K Love	393	4	6 00
R K Love	329	12	18 00
R K Love	332	5	7 50
L Wechselhasen	281	4	6 00
Wm West	352	5	7 50
N Graff	357	½	25
R S Cutter	366	3½	5 75
R S Cutter	384	10	15 00
E Ekelund	362	3	4 50
E Ekelund	364	2	3 00
Philip Myers	370	2	3 00
M Long	385	22 7-16	33 60

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Wednesday, the seventeenth day of March, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. CROWNINSHIELD, Secretary.
Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. mar6

POSTPONEMENT.—The above sale is hereby postponed until Monday, the fifth day of April, 1869, at the same hour and place. By order of the Board of Trustees.

mar20 J. CROWNINSHIELD, Secretary.

North American Wood Preserving Company. Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the twelfth day of March, 1869, an assessment of one ($1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 430 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourteenth (14th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the first day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.
Office, 430 Montgomery street, San Francisco mar13

Troy Ledge Mining Company, White Pine District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on Friday, the twenty-third day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M BUFFINGTON, Secretary.
Office, 37 New Merchants' Exchange, California street, San Francisco. mar20

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINCARD, Secretary.
Office, 408 California street, San Francisco. mar27

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco. mar27

THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It has donned a new-style hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

Machinery.

VARNEY'S
PATENT AMALGAMATOR,

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

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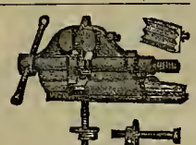
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23v16-1y O. H. NOTT, Pres.

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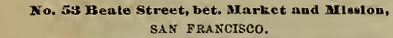
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21v17 qy **J. WEICHHART, Proprietor.**

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Boiler Scraper and Tube-Cleaner.

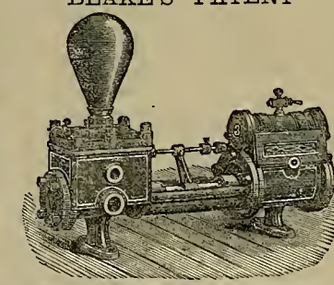
IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. H., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

BLAKE'S PATENT



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Warranted a positive Pump under ALL circumstances; it never stops nor gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

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The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skillful application of their soluble principle and elaborate machinery, produced what is so undeniably the perfection of Prepared Cocoa, that it has not only secured the preference of homœopaths and cocoa-drinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.

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[See following extract from the Globe of May 14, 1868.] "Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adapting their perfect system of preparation to the finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.

Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.
6v18 1y

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The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

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B. ROTHSCHILD, Secretary 20v17-3m

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

THE AGE OF STEEL.—The Chicago *Tribune* of Feb. 6th, contains an article upon the rapid changes wrought by scientific ingenuity and mechanical skill, in the extensive substitution of iron for wood, in ship building and machinery. It shows that steel is fast taking the place of iron, being more durable under the wear and tear of friction, stronger to resist strain, more reliable on texture, as a safeguard against accident, and far superior to iron for a great variety of uses. The price of steel has hitherto been a great obstruction to its more general use in place of iron, but it is now produced from iron by a process much more simple, and on a larger scale than heretofore and its price considerably modified. It is shown, however, that even at its former rates, when the first cost was heavy in comparison with iron, that in the long run it is the cheapest for wear, strength and safety. Another objection to its extensive use was its intractability which was a great obstacle in the manufacture of steel, which is now claimed to have been overcome after three years of study and experimenting by Mr. John T. Barr, of Chicago. He and his associates have already demonstrated that steel can be cast in any desired shape or of any required size, and to he absolutely depended upon for strength, durability and uniformity of wear. The discovery is applicable to all kinds of steel castings, and the company have recently been manufacturing steel wheels for railroad cars. They are considered greatly superior to iron wheels in many respects, and may be depended upon to run smoothly and last for a dozen years. It is thought that this new invention will he found to be the one thing wanted to facilitate the substitution of steel for ordinary iron where the ability to stand friction and strain is wanted in its greatest possible perfection.

LEADEN STALACTITES.—A correspondent of the Chicago *Republican*, describing the Berkwait lead mine in Wisconsin, says: "Thirteen beautiful stalactites depend from the low roof, varying in length from eighteen inches to five feet, and in diameter, at the base, from three inches to seven inches. Their proportions are symmetrical, tapering gradually down to a point that will barely sustain a drop of water, as it pauses there a second, tremblingly, before dropping to give place to another. Under the drip of each stalactite is a cone, the several hearing the same relation to each other that the stalactites above do, and containing, severally, perhaps one-fifth as much body as the latter. Both are in an imperfect state of rock formation, and may be shaven down with a knife in granular limy particles, little coarser than the scrapings of chalk. At the bases of each, however, above and below, at their point of attachment, the limestone is very perfect and hard, in a section three feet wide extending entirely across the cave. In what manner the separation is made between the various deposits, or when the necessary change took place, is more than I am able to determine; yet true it is that at one time these stalactites were deeply grooved from the base downward, as they are suspended toward the point or apex, and now these grooves are filled to the surface with pure lead ore, glittering and beautiful. Connected with these deposits and extending over a considerable surface of the roof is an incrustation two and one-half to three inches thick. On the cones below and the floor, however, there is very little mineral. The entire surface of the walls is bathed continually by a slow oozing of water from the crevice surrounding. It is indeed a more beautiful and interesting demonstration than any professor of chemistry or natural philosphy could hope to give."

TO DEODORIZE PETROLEUM.—An English inventor proposes to remove the peculiar odor from petroleum in a manner somewhat similar to that by which palm-oil and other oils have heretofore in some cases been deodorized—by blowing air through them while they are kept heated in a suitable vessel to a temperature of from 170° to 230° Fah. In place of using the air at such a pressure only as is necessary to cause it to flow through the oil, the inventor employs it at a high pressure, especially towards the end of the operation; so that when it enters the oil it expands greatly, thereby becoming intimately mixed with the oil and also cooling it rapidly below the temperature of the air, at which temperature he prefers to commence the treatment, and not to heat the oil.

WOODEN SHIRT BOSOMS.—A Philadelphian has taken out a patent for the manufactnre of wooden shirt bosoms, the material being prepared from that which is now used in papering rooms.

The Hindoo Philosophy.

There is a great deal of suggestive matter to be found in the intuitive poetry of that most ancient of all the world's schools of philosophy, whose principal record is the Shasters. Dr. H. M. Scudder's summary of it as given in his lecture before a very large, and solid, but considerably Presbyterian-looking audience, on Tuesday evening, was very good. He said:

"There were several ancient Hindoo schools of philosophy, and their philosophy always included their theology. One of these schools, taught in regard to five kinds of subjects—God, Matter, Man, Futurity and Salvation. They believed in one supreme being, called "Snt," meaning a passive being, enjoying a perpetual and everlasting condition of rest—a being that was never active, only as the shining sun was active. The sun, they said, shone upon the plant and caused it to bud, bloom, and at last to die. So it was with their god and matter. The passive power of their deity fell upon the universe, and produced, only to bring decay; yet matter, in itself, was somehow eternal. Some of the schools taught that matter was distinct from God, and being distinct, they designated it as primitive Nature. Deity, at certain periods, shone upon this matter, bringing forth a succession of products, and, by regular descending steps, brought forth all the material forms of the universe. At certain periods these forms receded and disappeared, and chaos came again; after which Deity and Nature reposed. Their belief as to futurity and salvation was the well known doctrine of transmigration. They say that before the human soul lie millions of births or deaths. Man might be born and die a thousand million times, either in a human, animal, insect, or even vegetable form, thus experiencing the results of previous transgression, passing through various Hells and Heavens before he reached his final reward in the abode of the supremely blest. And even when virtuous souls reached Hell, they passed through the opposite sides, and continued on forever, for matter required the soul to travel. The eventual emancipation from transmigration was the Hindoo Heaven; and man was on the eve of his approaching exemption when he had learned to act disinterestedly. He who had arrived at that point could never more be changed into fly or horse, or cat, but was on the eve of passing to his reward. If dying before their peace was fully attained, the spirit went to a certain place in the sky, or floated through the elements until the time arrived for it to be born again. When perfection was gained sufficient for the final and perfect Heaven, the contemplative and sequestered soul viewed all things with calm knowledge of perfect wisdom. It grieved at no calamity, nor rejoiced at any success; pain and pleasure were the same. A Hindoo philosopher once said to him that hell was just the place they wanted to go to, for it was on the road they had to travel. One of their proverbs was, "He that knows himself knows God."

In his comparisons of Hindoo philosophy, or poetry (?) with Emerson's ideas, his standpoint was that of a popular Presbyterian clergyman. Emerson had to suffer seathingly. Frequent analogies could of course be traced between them—Emerson and Boston "transcendentalism" being but a poetical version of the modern tendencies of thought evidenced in Kant, Hegel, and other modern German and French ideal natural theologians.

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1v18 1f

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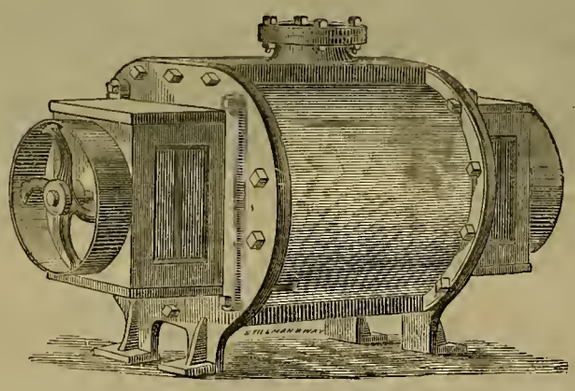

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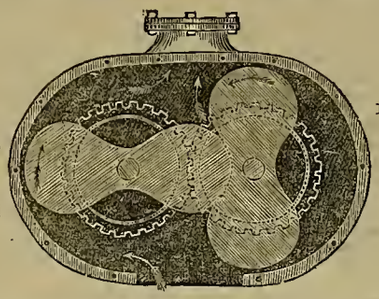


REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

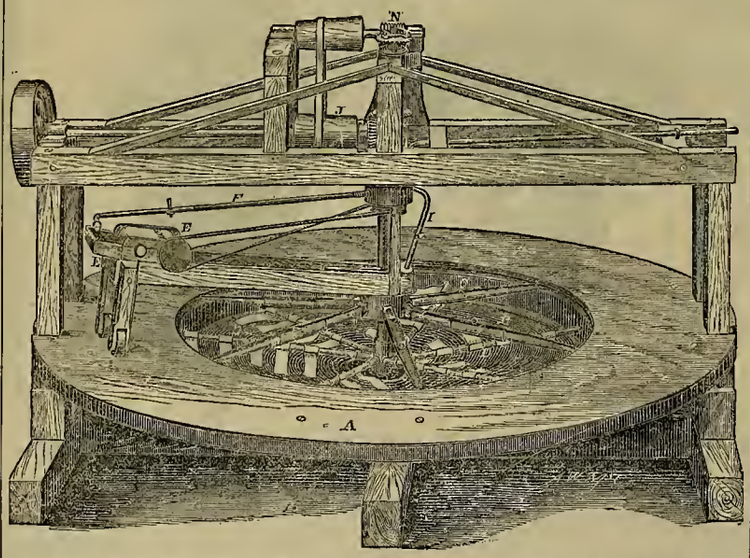
One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP & BARGION,
4v16-3m Globe Iron Works, Stockton, Cal.

PAINE & STEPHENS'
IMPROVED CONCENTRATOR,
For Saving Gold and Silver Sulphurets.



One Machine, costing about $1,300, is sufficient to work the Sands from 25 to 30 Stamps,

Less power being required than for any other Machine. The attention of quartz millmen throughout the State is directed to the subjoined certificates, and if they desire they can visit the Amador Mining Co's mill, near Sutter Creek, the Eureka Co's mill at Grass Valley, or the Banner Co's mill near Nevada, and see for themselves.

CERTIFICATES:

GRASS VALLEY, Jan. 4th, 1869.—This is to certify, that we have used the Paine, Stephens & Harry Concentrators for over twelve months. They have given us entire satisfaction, and are the best we ever used. WILLIAM WATT, Supt. Eureka Mine.

This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.
WM. L. TISDALE, Supt. Star Spangled Banner Mine.

NEVADA CITY, Oct. 26, 1868.

Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.
13v16cow

Metallurgy.

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PIONEER MINING SCHOOL,
—AND—
METALLURGIC WORKS.

Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of

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That I am prepared to teach all the above branches in less time than in any European School.

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Practical Chemist and Metallurgist.
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BULLION MELTED AND ASSAYED,

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PROF. HENRY WURTZ,
Formerly Chemical Examiner in the U. S. Patent Office may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞Written communications preferred.

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PROFESSOR WURTZ,
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All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for work ing 1,000 or 20-lb. charges of material for experimental purposes. 3v17

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ROBERT TAYLOR & CO.,
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Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.
Caution against Fraud.

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SULPHURETS;
What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
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For sale at this Office.—Price, One Dollar.
With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

New Incorporations.

Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

HORNET S. M. Co.—White Pine, Nev. March 26th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: Robt. Sherwood, P. B. Clark, W. G. Wyman, C. W. Fox and C. H. Bradford.

PACIFIC WOOD PRESERVING Co.—San Francisco. March 26th. Capital stock, $500,000; 5,000 shares, $100 each. Trustees: R. E. Doyle, A. J. Moulder, H. B. Tichenor, A. Hayward, Henry F. Williams, J. D. Fry and R. P. Hammond.

FRENCH S. M. Co.—White Pine, Nev. March 30th. Capital stock, $1,400,000; 14,000 shares, $100 each. Trustees: Emile Pascal, Adrien G. Chauche and A. D. Grimwood.

MARLBOROUGH S. M. Co.—White Pine, Nev. Capital stock, $1,000,000; 18,000 shares, $100 each. Trustees: Emile Pascal, Adrien Chauche and A. D. Grimwood.

EUROPE S. M. Co.—White Pine, Nev. March 30th. Capital stock, $2,000,000: 20,000 shares, $100 each.. Trustees: Emile Pascal, Adrien G. Chauche and A. D. Grimwood.

REICHART AND SILVER GATE CONSOLIDATED S. M. Co.—White Pine, Nev. March 30th. Capital stock, $400,000; 4,000 shares, $100 each. Trustees: Theo. Reichart, A. J. Shrader, C. C. Bemis, S. J. Loop and H. B. Rathburn.

COSMOPOLITAN REAL ESTATE ASSOCIATION. San Francisco. March 30th. Capital stock, $100,000; 100 shares, $1,000 each. Trustees: Chas. Alpers, Wm. A. Junke, Louis Schulze, Henry Schmidt and John Schneider.

WEST CALIFORNIA M. Co.—White Pine, Nev. March 31st. Capital stock, $1,600,000. Trustees: E. J. Williamson, W. L. Perkins, A. C. Morse, Ivan A. Weid and John J. McElhinny.

BUCKLIN S. M. Co.—White Pine, Nev. March 31st. Capital stock, $1,400,000. Trustees: Robert Sherwood, A. J. Donner, Thos. B. Lewis, G. W. Rogers and J. W. Bucklin.

GRAND TRUNK TUNNEL AND MINING Co. White Pine, Nev. Capital stock, $5,000,000. Trustees: J. De la Montagnie, O. P. Sutton, E. S. Spear, H. O. S. McCullough and T. J. Owens.

GARDEN VALLEY LAND ASSOCIATION.—San Francisco. March 30th. Capital stock, $34,200; 114 shares, $300 each. Trustees: O. B. Huff, Chas. F. Brown, T. W. Myrick, J. Cohn and Wm. J. Grun.

CALIFOLNIA SILK CULTURE Co.—San Francisco. March 30th. Capital stock, $100,000; 1,000 shares, $100 each. Trustees: Oliver Eldridge, Wm. Blanding, W. R. Cluness, Chas. W. Reed and L. A. Garnett.

SILVER MINT S. M. Co.—White Pine, Nev. March 30th. Capital stock, $5,000,000; 10,000 shares, $50 each. Trustees: S. Holliday, M. Kelsay, W. H. Wright, Geo. Waldenrod and John Johnson.

RUSSIA S. M. Co.—White Pine, Nev. March 30th. Capital stock. $4,400,000; 44,000 shares, $100 each. Trustees: Theo. Von Koekull, Theo. Stahl and Jos. Lugebill.

ELECTION OF OFFICERS.—NORTH PACIFIC TRANSPORTATION Co. — San Francisco, March 30th. President, Wm. Alvord; Vice President, Jesse Holladay; Secretary, C. J. Brenham; Treasurer, Wm. C. Ralston.

FLOWERY MINING Co.—San Francisco. March 30th. President, A. K. P. Harmon; Vice-President, J. H. Jones; Secretary, T. W. Fenn; Superintendent, O. S. Carville; Trustees, A. K. P. Harmon, J. H. Jones, A. H. Barker, Chas. Hosmer, M. J. McDonald, T. W. Fenn and O. S. Carville.

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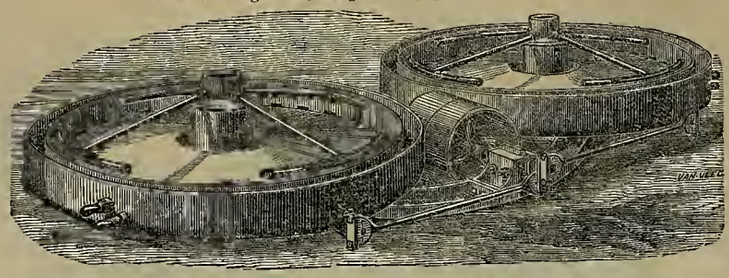
For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four or them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868

MR. MORGAN HUNGERFORD—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

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These Pans may be seen at the Pacific Iron Works, First street, near Howard, San Francisco.

Address,

GODDARD & CO., San Francisco.

Or M. HUNGERFORD, at the Pacific Iron Works.

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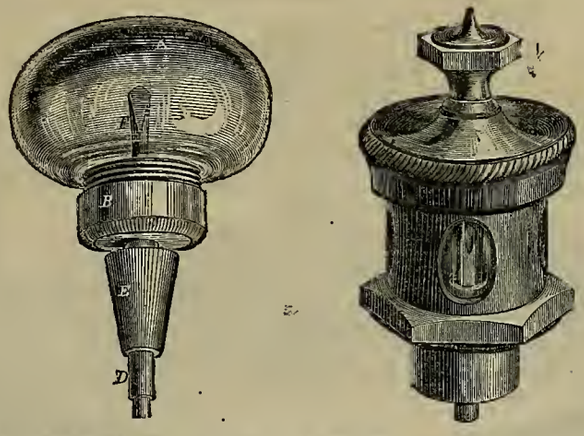
DREYFUS' PATENT SELF-OILER.



For Locomotives, Marine and Stationary Engines, Fans, Pickers, Looms, Carding and Spinning Frames, Lathes, Saw Frames, Shafting, and Machinery of every description.

A Saving of from 75 to 95 per cent. Guaranteed.

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DIRECTIONS:

Fill the cup full of oil, then screw the cap down air-tight. Place the tube in the oil-hole in an upright position, or upon an angle of 45 degrees. Permit the rod to have a perfectly free action. If you desire to have the oil flow faster, reduce the wire.

REFERENCES:

For the convenience of persons desiring references, we annex the names of a few Manufacturers and Railroad Companies, who are using the Dreyfus Patent Oiler in different parts of the country: San Francisco—Mission Woolen Mills; Pioneer Woolen Mills; Pacific Woolen Mills; Golden State Foundry; Ætna Foundry; Fulton Foundry; Empire Steam Mills; San Francisco Gas Co.; Mechanics' Mills; Bacon & Co., Printers; Bosqui & Co., Printers; B. F. Sterrett, Printer. Sacramento—Union Iron Works. Stockton—Globe Iron Works.

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WILKIE DARLING, Manager,

Send for Circular. (To whom all Communications must be addressed.)

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City
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CHURCH AND STEAMBOAT
BELLS,
TAVERN AND HAND BELLS AND GONGS,
FIRE ENGINES, FORCE AND LIFT PUMPS,
Steam, Liquor, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles,
HYDRAULIC PIPES AND NOZZELS
For Mining purposes, Iron Steam Pipe furnished with Fittings, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."
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MINING AND SCIENTIFIC PRESS.

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, APRIL 10, 1869.

VOLUME XVIII. Number 15.

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Smelting.

It is the general impression that most of the base metal mines at White Pine will be to a great extent dependent in the matter of profitable operations, on the success of smelting. To the smelting of carbonates of lead and copper plentifully found there in several localities, there can be no obstacle except too low an average of silver in the ore; and there is never any obstacle or difficulty in the smelting of very rich refractory ores, but inexperience and incompetency on the part of the smelter,—who may be an assayer, familiar with his art by rote, rather than with the principles of metallurgy on which his operations are based. A smelter, to be depended upon in the construction and inauguration of new works, must have had years of experience in establishments of the kind, precisely as would be the case with a foundryman, or an iron ore smelter; but with the difference that a foundryman's wastes and failures are not in precious silver. To smelt low grade ores, in a new country, with limited resources and appliances at command, or available only at extravagant figures, is a question of another kind—a problem that even the most competent smelter could fail in solving, or indeed would be likely to fail in, unless he were at the same time somewhat of a financier.

There are half a dozen White Pine smelting establishments on the tapis, all of them we believe *in statu quo*, so far as the production remuneratively of bullion is concerned. The cupola furnace is preferred, with bellows or fan blasts, a good fire-proof sandstone (?) being found in the vicinity of Treasure Hill. Parties in this city are taking steps, we are informed, for the construction also of a reverberatory furnace, with a view to avoiding, by the use of a chimney, the expense of the blast.

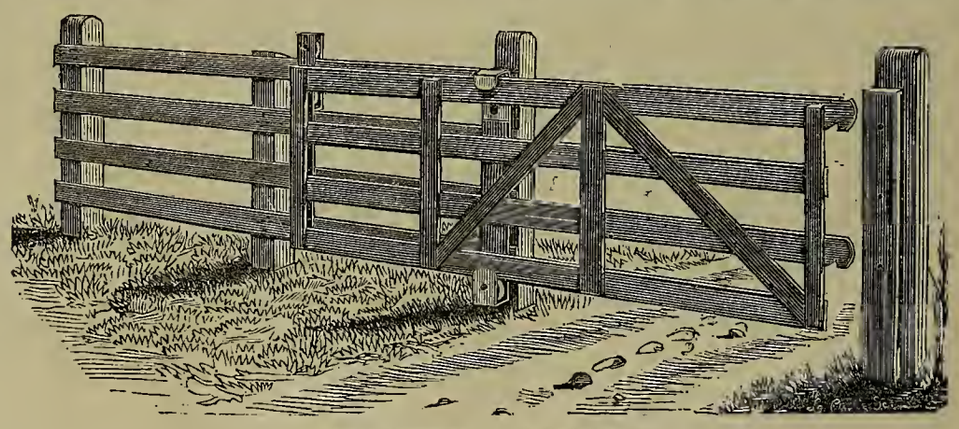
Smelting has been practiced with varied success and in every imaginable kind of furnace, in this city, at Oreana, Adobe Meadow, and Owen's River, Nevada; at Stockton and Cottonwood Cañon, Utah; and at Central City and Georgetown, Colorado; and at several places in Montana. In Mexico there are hundreds of small adobe cupola furnaces, lined with steep, and lime coating above the melting zones, fluxed with alkali (carbonate of soda) principally, and heated by means of hand-bellows,—working successfully on rich ores in the hands of the commonest greasers. Some of the ores treated by these aboriginal metallurgists are first subjected to heap roasting.

We hear of another universal flux,—a new discovery, consequently better than all former universal fluxes put together. Its virtues are vouched for to us, by persons who do not pretend, however, to understand fully the subject—the substance used being kept a great secret. It is probably cryolite, some "silicate of alumina,"—or a humbug. Except in one or two very judiciously managed establishments, it is safe to predict that smelting stock at White Pine will very soon be below par.

IMPROVED CONCENTRATOR.—Mr. Hungerford, of the Hungerford & Prater Concentrator, has recently made some important improvements to the machine with which his name is connected. This improved machine is now at the Pacific Foundry, where its operation, during the past week, has been witnessed and closely observed by quite a number of millmen, miners and others. The modification consists first, in the mode of distribution of the sand as it is fed to the machine. This is now effected by a series of radial arms springing from the feeding fountain in the center, the sand being received through these arms into a circular trough, which also acts as a screen, preventing the access of coarse particles of sand to the table, which seriously interferes with the proper concentration of the sulphurets. The second modification or improvement consists in the application of an automatic feeding arrangement, which is to be employed when the machine is put to work upon sands that have been previously collected in bulk, and which have to be shoveled into the machine, instead of being regularly fed into it, as from a battery. By this arrangement a box may be filled, of sufficient capacity to employ the machine for a half hour or more, and by the stream of feed water automatically moved along from front to the rear of the box, the sand is gradually fed to the concentrating table, slow or fast, as may be required. This automatic feed arrangement seems perfect in its operation, and must save a large amount of labor, in working sands from masses of that material.

Premium Farm Gate.

A substantial and cheap farm gate, which shall combine economy with practibility and neatness is a great desideratum among farmers. Many devices have been patented and introduced; but none as yet appear to have come into very general or permanent use in this State. We give herewith, however, an illustration of a gate, which seems to come about as near meeting the precise necessities of the case as anything with which we have hitherto met. This is known as the "Sear's Excelsior Farm Slide Gate," and has been quite extensively introduced throughout the Atlantic States where it is said to have taken the first premium in every State or County fair in which it has been entered. Mr. D. S. Lusk, of this city, who has purchased the right for building and selling this gate on the Pacific Coast, has already introduced it upon quite a number of farms in Alameda County. He now proposes to dispose of State and County rights.



SEAR'S EXCELSIOR FARM SLIDE GATE.

By reference to the illustration, it will be observed that the construction and operation is exceedingly simple; it may be hung upon any ordinary panel fence—one of the panels of the fence itself being readily converted into a gate. All that is requisite is to procure three or four small and simple castings, when any ordinary workman can readily construct and hang the gate. These gates, when made of unplaned fencing can be constructed at a total cost of from $4 to $5. The gateway being narrower than an ordinary full fence panel, the gate itself is made to "overhang" and thus partially balance its own weight, so that on opening, an expenditure of but little strength is required at the start, when the gate is soon balanced and moves with a very slight effort. For further particulars, apply to D. S. Lusk, or to Messrs. Baker & Hamilton, No. 19 Front street, San Francisco, where a model gate can be seen.

TO BE FENCED.—The track of the Western Pacific Road is to be fenced on both sides of the same from Brighton to Oakland. This is a good move, and one which should be followed by railroads throughout the State.

WHITE PINE SPECIMENS.—A specimen from the Eberhardt recently analyzed by Mr. J. H. C. Bennett, contained 60 per cent. of silver, 20 per cent. chlorine, and 20 per cent of earthy looking matter; the latter consisting of six to seven of arsenic, less than one per cent. of copper, and the rest, or 10 to 12 per cent. of carbonate of lime. This is the ordinary "chloride" ore. Miners in Eastern Nevada make a distinction between "chloride" and "horn silver;" the latter being simply the pure chloride, which looks like horn when not mixed with an earthy gangue.

We have seen a specimen showing chloride interstratified between layers of carbonate of lime, each kind or layer being a quarter of an inch in thickness. The owner was satisfied in knowing that it was "White Pine ore," and was not able to inform us whether the stratification of the specimen as found was conformable with that of the sedimentary rocks of the country; or whether it is a fact that chloride ore at White Pine sometimes shows the phenomenon of vein stratification—of having layers parallel with the general direction of the vein. In either case the specimen was an interesting one, indicating, 1st, either that argentiferous and calcareous solutions alternated; or 2d, that the precipitating reagents were different, and that they alternated in their flow; whether the deposit was sedimentary, or of the character peculiar to veins; or 3d, that the silver solutions infiltrated between the thinnest limestone planes, presuming that these were in position, without permeating or affecting the substance of the lime mineral.

Mr. G. W. Stewart brings us specimens from the Illinois mine, three-eighths of a mile northeast of the Eberhardt, consisting of silver glance or black sulphuret of silver disseminated in granular limestone; from the Mocking Bird mine, consisting of chloride with a few stains of blue carbonate of copper; and a piece of croppings of the latter, resembling chloride, but containing nothing at all. These ores assay from $250 to $2,000, the vein on which these mines are situated being supposed to be the same as that of the Silver Glance mine, and dipping westwardly into the hill.

Bromides are said to exist quite commonly; generally the mineral is nothing more than a brown chloride, distinguished by that name. Bromine has been traced in some of the White Pine ores, as we are informed on the authority of Mr. Richard A. Cochrane, assayer.

Vein Characteristics and Geology of White Pine.

So slight and unsatisfactory bas been the information of a definite character bitherto obtainable on tbis subject, that we welcome the following data (from the pen, we suspect, of Dr. Degroot) as a contribution of greater importauce than most that bave preceded it, descriptive of White Pine and its ore deposits. It is extracted from Bancroft's Guide to White Pine, accompanying the map noticed in another column,—a 12mo. pamphlet of 31 pages :

Towards its northern extremity and in the vicinity of the recently-discovered rich mines, the White Pine chain of mountains separates into several parallel ranges; tbe most western of which consists of the Pogonip Mountain; the central eminence heing designated Treasure Hill; and tbe most eastern Mokomoke Hill, the latter peculiarly constituted and constructed, being composed of silicious and argillaceous rocks, but little disturbed from horizontal in their upheaval. Pogonip and Treasure Hill are calcareous or magnesian in composition; much disturbed and tilted in their uprising through tbe superior rocks and superficial debris, presenting their naked walls and sides of limestone rock, scamed by the sparry stria that indicate the slumhering wealth of their bowels. The limestoue rocks exhibit themselves latitudinally, some eight or nine miles, and longitudiually are coëxtensive with the range some hundreds of miles. They are tbe home of the chlorinated ores on Treasure Hill, and of the base metals on the west. It is yet undetermiued which of these repositories will be ultimately tbe richest, but our practical operators, captivated hy the known riches, and especially by the great facility in working the first-class ores, have in a great measure confined their observatioue and labor to them. In addition to the facility of reduction, Treasure Hill, from its accessibility on all sides, and its proximity to wood and water, has a present advantage that in all probability the future will not disturb. A reference to tbe map will show that the Base Range has not been entirely neglected, while the assays, ranging from $20 to $200, and the abundance of galena and other fluxes, justify the helief tbat the four smelting furnaces now erecting will be successful ventures, and will swell the amount of bullion the coming season. Silica enters into the composition of the veins of the east and north Treasure Hill, but westwardly, including Pogonip, the gangues are calcareous, being calc, fluor, and bitter spar, holding in connection chlorides, carbonates, oxides, phosphates and sulpburets of the various metals.

The disposition of the metals is not so easily recognized, inasmuch as chlorine has altered the usual types of tbe ores, and the assays are not yet sufficiently numerous to cover the ranges of the mineral. Gold, silver, copper, lead, bismutb, and arsenic have been exhibited, but their relations in place to each other has not yet been accurately indicated. In the Eberhardt and coincident mines, silver is found combined with lead, bismuth, antimony and arsenic, making in special sections a rich, eoft, black ore, valuing up to $20,000 per ton. The Virginia and Pocotillo ores are entirely unlike the preceding, though abounding in chlorine, beiug silicious instead of sparry, and having copper and iron in lieu of lead and bismuth. The Aurora and Hidden Treasure ores are lese contaminated, being more purely argentiferous, occasionally yielding native metal. A marked difference is apparent in the ores of the different sections of the hill, caused by various amounts of igneous action. In some places the veins are much disturbed, projecting to the surface large masses of conglomerate and agatized rock, making the ordinary simple reduction impracticable, while in other places the veins are sleeping in a normal state, the only evidence of their oxistence being the sparry stripes tbat furrow the eurface. The paucity of gold in this connection is a remarkable feature; so far as has been observed, it is confined strictly to the gangues and to limited amounts, the sparry assays having failed to give eveu an indication; whether wasted by chlorinatiou or non-existent primarily, the future must determine.

Treasure Hill, exclusive of its outliers, extends five miles north to south, and two and one-half miles east to west. It is a great shaft of calcareous matter, stratified dolomites and schists, crescent shaped at its summit, its northwestern horn heing produced in the Hamilton Ridge, and its southwestern towards Silver Springs. Its hight from the gulches that circle it is nearly 2,000 feet, and from the sea 9,000. Its northern apex is volcanically disturbed, while its southeru crests are tilted westward, at an angle of thirty degrees. Its venous system is gigantic in number, size and wealth, and Potosi and Charñacillo will havo to give precedence to their northern rival.

These and Guanajuato, the richest Mexican miue, are constituted like Treasure Hill, not only in the country rock and vein stuff, hut are essentially the same in mineralization, all producing more or less the chloride ores. This likeness should lessen the prejudices that exist in the breasts of many agaiust tbe lime rocks, and their last misdoubts should be removed by the duration of the Potosi, and the profundity of Charñacillo, whicb, at 1,600 feet in depth, is yet productive. Treasure Hill has the advantage of Potosi in accessibility and temperature, and of Charñacillo in wood and water, and of both in its extraordinary facilities for exploitation. The Hill is nearly encircled by water gulches; its sides are clothed with wood, and it is rifted from top to hottom by great metallic lodes, that course over it in all directions. There is no water, however, *in* the hill, to embarass the miner, who can delve in at the bottom, sides or top, at his discretion.

Ten systems of veins are exhibited in Treasure Hill; in addition to which the great northwest aud southeast courses or belts sweep over, making irregular emissions of vein stuff, that will often compromise tbe regular fissure veins, dislocating some and infiltrating others, and the intervals betweeu them, making a seeming, though false aud unreliable vein. These rocks can be distinguished from tbose of true veins by their transverse structure. A person on Treasure Hill, looking westward on the Pogonip Mountain, will see ribs and ridges coursing down its sides in various directions, but westerly and continuous over the intervening space; and turning to the Mokomoke on the east, will perceive coincident impressions. Advancing to the Pogonip Flat above the Eberhardt, he will see the foot-hills shaped into ridges bearing north and south, and from Hamilton he cauuot fail to note the eame ohvious indications ou the uorth end of Treasure Hill. These are the great northern courses that range over the Hill, contributing largely to its characteristics by their great size and productiveness. To form an idea of the tesselated character of the Hill caused by these multifarious veins intersecting each other, rule the mountain over, creating a lahyrinth that can only he traveled by a rigorous adherence to rnle. The iguorant mind that does uot perceive the venous connection, imagines spurs and angles. Occasionally a "Stoeckwerk" will occur, in which a vein will branch and floor itself; but it is superficial, and in depth it will resume its integrity. Where the rock is refractory or the vein weak, a decisive rupture will not be bad, and the vein will expire between the layers that are partially uplifted, or struggle through the interstices in an irregular manner. Examples of these two modes are frequent in Chloride Flat and many other localities, and induce the most incongruous theories in respect to the metallic arrangement. Veins are rigbt-lined (save where faults occur that are readily noted by the miner), have an invariable dip, not in amount but in kind, and an unvarying parallelism. The constaut nature of the strike, dip and parallelism of veins is a necessity arising from their creation. Break up a body of ice by an underflow of a wave, and the ruptures will be at regular distances conditioned on the thickuess of the ice and the power of the wave, and they will be fouud to have a dip accordant with the force exerted. An earthquake wave flowing from the west would make a north and south ruptnre with a western dip, and the dip would be greater and the rupture more distant, tbe deeper seated the wave. So a north wave would give a uorth dip to its fracture, and at ten miles in the interior of the earth will produce veins more remote from each other than at five miles. The longer the spoke, the longer the felloes of a wheel.

When the imaginary lines representing the several systems of veins are drawu over the bill, do not expect to find each one represented by a vein. The crevice was made hut may not bave been filled, and therefore was closed up making, where this is a general occurrence, a weak and unproductive district. In ordinary, the third or fourth vein of a series will seem to rob its fellows and attain greater bulk, and sometimes all the veins will be surcharged and make au Eherbardt or Chloride Flat, though as in the case of the flat, they are concealed by a refractory surface.

Like other sections of Nevada, where the northwestern and southeastern courses are secondarily affected, remarkable results follow. While not dictating the conformation of the Hill, they exercise a great control over it, and their influence is more especially visible in tbe veins and bedrock of the country. These courses at times give expression to new veiu matter, that fills the intercalated country, and binds the fissure veins together, apparently in a new vein, while at other times, without adding matter, it changes the state of the preëxisteut veins hy baking them with heat, or hy a reinfusion of chlorine. The schists, more than the dolomites, exhibit this influence, by being debilitated even to the point of incineration, and coated all over hy the gray earthy chlorides. It will not he unsafe to say, that, in this conuection, the purest silver ores will he found, as the base chlorides will have been removed uuder the conditions needed to produce this state, —*i. e.*, heat and moisture—while the insoluble silver chlorides will remain.

Railroad Items.

The Proposed Railroad to White Pine is attracting a large share of attention. A gentleman intimately connected with the Central Pacific Railroad has assured the editor of the White Pine *News* that a railroad will certainly be built from some point at or near Elko to White Pine with all reasonable dispatch, and that work will he commenced witbiu a very few months. With the large number of men which that company could put to work as soon as the junctiou is made hetween tbe two overland roads, the White Piue road could he graded inside of three months, and the iron horse might reach there within four months. The importance of such a road can scarcely be estimated. Besides accommodating the vast crowd of travelers that must for years pass to and from White Pine, and greatly decreasing the cost of working the mines there, it would lead to the rapid development of a large area of agricultural territory. Tbe early extension of such a road to the Colorado, which would soon follow, would also give us a connecting link betweeu the two great contiuental railroads—the Central and Southern—at a point precisely where sucb connection would be most needed. The inception and early completion of this road is an improvement of the utmost need.

In refereuce to this road, "Jig," the Gold Hill *News* correspondent, says Carlin, not Elko, should he the point of junction for an interior north and south road. Along the liue would he a belt of fine agricultural land, 70 miles in length, and varying in width from 10 to 30 miles, bounded along the western side by the Diamond range of mouutains, and on the eastern side hy the White Pine range, through a low gap of which Ruby Valley is reacbed six miles from Jacob's Wells.

Oroville and Virginia Railroad.—This company, at the head of which is John Beusley, the well known capitalist, commenced grading near Oroville on the 30th ult. That work would have been commenced sooner but for litigation instituted by another company. The western connections will be with the California Northern Railroad at Oroville, and the Vallejo and Marysville road, with a Sacramento connection at Davisville. The distance from Vallejo to the State line will be 241 miles. Tho road runs up the North Fork of Feather river to a point opposite Quincy, thence through the American Valley to the Middle Fork of Feather River, and thence direct to the Beckwourth Pass. The maximum gradient is 66.7-12 feet; average grade only 34 feet per mile. The greatest elovation attaiued is ouly 4,682 feet above tbe sea.

Tulare and Gilroy.—The citizens of Tulare are jubilant over the prospect of an early connection by rail with San Francisco direct. The Stockton *Gazette* says the prospect is flattering for the success of the new plan for building the railroad from that city up the valley of the San Joaquin. There is every reason for believing that 30 miles of the road will be in operation by the first of Angust next;—while the care which are already ruuning from this city to Gilroy will soon cross over the Coast Range and plungo down into tbe rich and fertile valley beyond. Prudeut business men foresee the value of these improvements and are shaping themselves to take an early advantage thereof. The completion of these roads, both of which may now he considered a matter of early accomplisbment, will at once fill up the Tulare Valley with a large agricultural and mining population. The people now there are already beginning to prepare themselves for the approaching train.

The Western Pacific.—Work upon this road is heing pusbed with vigor, such as has been seen nowhero else in the whole bistory of railroad building, except on the Pacific Coast. The whistlo of the locomotive will eoon be heard in Stockton; while the San Francisco connection is approaching the same point as rapidly as money, muscle and gunpowder can push tho work ahead.

The Northern Coast Railway.—Oregon is fully alive to the importance of her system of railway counections. Sbe wants populatiou east of the Cascade range, and she wants a better outlet to the south for the increasing products of her rich valleys to tbe east of tho Coast Range. To accomplish this, she is addressing all her energies to a connection with the Central Pacific, somewhere in Nevada. To carry out the latter, two routes are proposed, both of which look to a direct connection of tbe magnificent valley of the Willamette with this city—one by way of Humboldt and Petaluma; the other down tbe Sacramento Valley to Marysville. Botb are needed and are eure to be constructed. The rivalry between the friends of the two will effect their construction all the sooner.

California, just now, has a larger interest in the Humboldt than in the Marysville route. A road will soon connect this city witb Eureka; while the Oregonians, in the mean time, will be pushing a main trunk down the Willamette from Portland to a point where the most convenient pass will be found to cross the Cascade range, on the way to connect with the Central Pacific. When both these works are thus far completed, there will be only about 100 miles needed to connect Eureka with Jacksonville, which point will at any time be in easy connection with the Portland and Central Pacific line. The advantage to be derived from such a connection would ensure its early completion, and we should then have a system of roads connecting the two great Pacific States, the importauce of which can scarcely be estimated.

Railroad to Puget Sound.—The movement by Ben. Holladay and others connected with him in the proposal for a railroad from the Columbia River to Puget Sound, is attracting much attention from the largo land owners on the southern shores of that water. Olympia, Stellacoom, and the new towns of Tacoma and Jerusalem are each anxious to secure the terminus of the road withiu their limits, and are all making handsome offers to Mr. Holladay in the way of land. The fact that the road will be speedily built seems to be a matter of no doubt whatever. A glance at tbe map will show at once the great advantage of a railroad connecting the Columbia witb Puget Sound.

To Placerville.—The citizens of Placerville appear to he at work in earnest, to remove the difficulties in the way of the early completion of the Folsom road to that city. The only hindrance to the accomplishment of this much desired improvement, consists of vexatious questions of conflicting interests, which are now in the courts; but which it is proposed to settle amicably, to the end that the pick and shovel may be put into operation. When "John" gets to work on the road, unhindered by the pecuniary quarrels of the white man, the people are sure to he benefited by his labors.

Railroad for Vacaville.—The citizens of Vacaville held a meeting in that place on Friday of last week, to organize a railroad company, to build a railroad from a point on the California Pacific Railroad to Vacaville, a distauce of three and one-half miles. The books were opened and $15,000 subscribed by citizens of the town. The estimated cost of the road is $25,000, which the people here thiuk can be raised and the road running by the 1st of May.

Mechanical.

New Process for Coloring Building Stone.—Dr. J. M. Weisse, of New York, has, after long experimenting, invented a method by which blocks of marble or granite are colored through and through, and that, too, permanently. Heretofore, all plans having this object for their end, have failed; the stone being either stained by them upon the surface only, or the color being changeable with time. The process of Dr. W. is not yet given to the public in detail, but the *Scientific American* says of it: "We are informed that the process is based upon the discovery of a new mordant, which has such an attraction for stone that when a large block has only its base immersed in the solution, it will in a short time become permeated through the entire mass, increasing its specific gravity, and filling its pores so that the absorption of water is rendered very much less when subsequently exposed to the weather, than previous to the operation. When it is remembered that the absorption of water, and its subsequent expansion by frost is one of the greatest causes of disintegration in our climate, it will at once be seen that an important collateral gain is obtained by the new process. Marbles colored by this process in the rough, afterward take a most beautiful polish, and specimens of dolomite polished previous to coloring have their polish heightened by it. We have before us a piece of marble picked up in a common marble yard, of a cheap variety, one side polished the other rough, which has been colored by this process, and which the best judges invariably pronounce to be genuine Sienna marble."

The Radcliffe Process.—*The Engineer* recently visited the Consett Iron Works, and witnessed in practical operation, the production, by the Radcliffe process, of finished bars, sheets, and plates direct from the puddled ball. An example, taken at random from the reporter's note book, is given to show of what the process is capable:

"At half-past three P. M., the first of eight puddled balls was brought from the furnace and placed on the anvil. In four minutes and a half this and seven other balls were welded into a slab weighing 584 pounds. At twenty-six minutes to four o'clock this pile was placed in the heating furnace; at nineteen minutes to four o'clock it was taken out and brought to the rolls; at fourteen minutes to four o'clock it lay on the floor of the mill ready for shearing. Thus, precisely sixteen minutes were occupied in producing the plate from the puddled ball. The weight of the plate before shearing was 574 pounds. It was then sheared to the finished size, 20 feet by 3 feet; thickness, 3-16ths inch nearly; weight sheared, 448 pounds. It is necessary to point out here how much is gained in time, coal, iron, labor, and finally, in money, by the Radcliffe process, as compared with old systems of manufacture? The question here is, what is the quality of the finished plate, bar, or rail? We examined some scores of specimens. Plates 7-8ths inch thick, bent cold to an angle of 90°. Thinner plates bent upon themselves, coiled into a helix, split and bent backwards and forwards, dished up into troughs, twisted and tortured in every imaginable fashion, punched close to the edge—as close as holes would go—yet no symptom of crack or flaw. We have no hesitation in classing the specimens we examined with the very best ship-plates in the market; and yet these plates are produced at a price which has enabled Mr. Radcliffe to take very heavy orders from Dutch shipbuilders, beating Belgium out of the market, and yet leaving a fair profit."

Our readers will recollect the reference which we have before made to this process.

Anti-Incrustators.—A writer in the *Scientific American* says: The genius of inventors has been, for some time past, tasked to discover some means of preventing incrustations in steam boilers. Chemical science, natural philosophy, and mechanics have each contributed many "panaceas" for the attainment of this purpose, but we confess that we know of no remedy applicable in all cases, neither do we believe that such will be discovered. A good chemist, knowing the impurities of any particular water, may, in some cases, be able to indicate to the engineer a chemical agent which will precipitate a portion in a special feed-water tank; but in many instances the chemicals will end by acting deleteriously on the boiler or on the rubbing surfaces of the engine. Heating the feed water by means of the exhaust steam is in most cases inefficient. Successful precipitation at temperatures higher than boiling water, needs the employment of accessory high-pressure boilers, which in the turn become incrusted, and waste as much fuel as the original boiler. Blowing off is unsatisfactory. Surface condensers, as at present manufactured, are too expensive and objectionable from other causes. A hundred "patented" and "unpatented" *anti-incrustators* may individually find useful application in special cases; but none will answer for all sorts of boilers nor for all kinds of water. The matter must in each case be left to the judgment and science of the competent engineer.

Photographic Lenses.—We find the following in *The Engineer:* It is not generally known that a good lens for landscape photography may be made out of a spectacle eye costing less than sixpence. Suppose a spectacle glass of six inches in focal length be chosen, it should be slightly meniscus and nearly plano-convex in form. The convex side should be turned towards the inside of the camera, and the diameter of the lens be reduced to a little more than a third of an inch, by means of a piece of paper perforated by a round hole of the required diameter, and pasted upon the lens. A step of about one-fourth inch aperture should be fixed in the tube of the lens one-third inch in front of the concave surface. A simple lens of this kind will not bring the chemical and visual rays to the same focus, so after focussing, the lens must be pushed one-thirtieth of its focal length nearer to the ground glass. A good photographer can get excellent binocular landscape pictures in a still simpler way, though the exposure will be rather long. Two round holes one-fourth inch diameter, should be bored in the front of the camera, and an old pair of spectacles then be nailed on the wood, so that the centers of the glasses cover the two holes. It is also not generally known to photographers, that those who have binocular portrait lenses may often save themselves the expense of buying a doublet or triplet for copying purposes. The two front lenses of the portrait combinations should be screwed into opposite ends of the same tube, and a small stop be inserted between. This makes a good doublet, giving sharp definition and straight marginal lines.

For Molders in Plaster.—Dr. Hoffman, in the *Journal de Chimie*, recommends the addition of a coat of glycerine to the ordinary soap coating used in molding in plaster. For some time past, the separation of the proof from the mold has become more difficult, from the deterioration of soap.

Effect of Cold upon Tin.—M. Fritsche recently exhibited to the Paris Academy of Sciences some specimens of tin which had undergone a change in their atomic composition during the excessive cold of last winter. Large blocks had become crystallized throughout their entire mass, and had assumed a basaltic appearance. The most peculiar circumstance observed was the formation of large hollow spaces in the midst of the blocks, which in some cases reached the extent of a hundred cubic centimeters. The sides of these cavities were perfectly smooth, with metallic reflections, while the rest of the tin, where broken up into small grains, or into pieces of various sizes, had a dull surface, caused, probably, by oxidation. This phenomenon had been previously noticed in practice, but, with the exception of a case mentioned by M. Erdman, in which the pipes of an organ were found to have been affected in a similar manner, nothing seems to have been published on the subject.

Finishing Taps and Reamers.—"D. B. K."s ends the *Scientific American* his method, which is as follows: "The forgings are got out in the usual way, left to anneal, then centered and turned just sufficient to remove the scale. Then anneal again and turn down to within a thirty-second of an inch or less, of finishing size. Anneal once more and finish in the lathe. If not sprung in turning, the tap or reamer will come out all right when hardened. I have tried this process with taps one-eighth inch diameter and three inches long up to those one inch diameter and two feet long and found it always safe and sure."

James F. Smith has hit upon a simple way of cleaning files filled with work. He simply holds them in a jet of steam under forty pounds pressure. In one minute the files come out "as good as new."

Scientific Miscellany.

Chemical Engineering.—Under this head, Prof. Henry Wurtz has an article in the *Manufacturer and Builder*. We give a sentence from the opening paragraph:

"The time has almost come when few will sneer at the statement that more is to be learned, of a strictly *practical* kind, in relation to the laws governing the strength and durability of materials—an accurate understanding of which is so essential to the weal of man—from the investigations of scientists, than from all the experiments with brick and mortar since the building of the Tower of Babel."

After alluding to the importance of a knowledge of the matters relating to the molecular structure and texture of materials, and the changes which these undergo, in reference to the disasters caused by the sudden breaking of axles, the fall of buildings, or the bursting of boilers, Prof. W. says:

"The new experiment of steel rails, in a climate like ours, whose intense cold is known to destroy the viscosity of steel and leave only its brittleness, is contemplated with foreboding. This leads to the suggestion that no questions require the attention of the investigater more than those connected with the different kinds of consistence of matter, the influence of various agents in modifying the same, and the modes of producing and conserving any desired form of consistence. Graham has generalized all consistence under two heads: the crystalloid and colloid. It seems clear to me that to these must be added the viscous or viscoid consistence, if not still other distinct species. Another great field for the chemical engineer is the preservation from decay, from fire and other destructive agencies, of such substances as stone, wood and other materials used in building, and in the construction of vehicles. It is clear that iron as a material for these purposes is continually disappointing the sanguine expectations of those who do not understand well its inherent defects; and I believe the time will soon come when wood, so prepared chemically as to be incombustible, indestructible, and a perfect non-conductor of heat, will be the almost universal material used in the construction of buildings and vehicles, except, of course, the machinery of the latter."

Eophyton and Eozoön.—The remains of a terrestrial flora have recently been discovered in certain Swedish rocks of Lower Cambrian age. These, so far as we yet know, are the earliest land plants. The discovery of this *Eophyton* is of equal interest with that of *Eozoon*,—the earliest animal organism,—in the Laurentian rocks of Canada. The *Quarterly Journal of Science* says: "A peculiar interest attaches to this discovery, inasmuch as it carries back the appearance of terrestrial vegetation upon the earth's surface through a vast interval of time, no land-plants having previously been known older than the Upper Ludlow beds. The Swedish fossils now discovered appear to be the stems and long parallel-veined leaves of monocotyledonous plants, somewhat allied to the grasses and rushes of the present day. These plants apparently grew on the margin of shallow waters, and were buried in sand or silt, although it is probable that several species, and even genera, may occur in the sandstone blocks which have been examined. They are provisionally included in a single species, to which the name of *Eophyton Linnæanum* has been given."

British Academy of Sciences.—It is reported that an effort will soon be made to unite all the scientific bodies of London into one institution, under the title of the British Academy of Sciences. The *Scientific Opinion* says: "Of course the Royal Society must always stand apart; but it seems to us that a fusion of the other societies would be productive of advantages both to the societies themselves and to scientific progress."

St. Domingo.—"We understand that Prof. W. M. Gabb, formerly connected with the California Survey, and now State Geologist of Santo Domingo, will sail in a few days for the latter country, to commence the work of a topographical and geological survey, with especial reference to the valuable mineral deposits which are known to abound in the island."—*Am. Journal of Mining, Feb.* 13.

Bauxite.—We clip the following from the last number of the *Journal of Applied Chemistry;* "A very important mineral has been found in France, which ought to be looked for among the iron mines of this country. It is called bauxite, after the department in which it was found. We desire to call particular attention to it, as it is probably overlooked or mistaken for a poor clay iron ore. It may be regarded as a hydrated oxide of alumina, in which the iron has been replaced by alumina. The most remarkable thing about it is the entire absence of silica, so that it does not resemble kaolin or potters' clay. Bauxite has already numerous applications in the arts. It is employed in the manufacture of aluminum; it forms a soluble compound with baryta, which enables us to obtain alumina free from iron. By fusing bauxite with soda-ash an aluminate of soda is produced, which has extensive application in calico printing, and which could be employed in the manufacture of glass and of ultra-marine. It is also proposed to fuse it with common salt, as a first step in a new process for the manufacture of soda-ash. A large establishment in Newcastle prepares sixty tons of sulphate of alumina every month from bauxite. They also make aluminate of soda and sulphate of alumina from it, the latter salt being of great value in the manufacture of beet sugar. Very few minerals of recent discovery have attracted more attention than this, and it is to be hoped that deposits of it will be discovered in the United States."

Kjœkkenmœddings in Iowa.—C. A. White briefly describes, in the *American Naturalist* for March, some aboriginal relics recently found upon the banks of the Des Moines River, near Keosauqua, Iowa. Heaps of shells like those of the mollusks which now inhabit the stream, mingled with bones of the deer, the skulls of fresh-water turtles, flint arrow-heads and knives, and fragments of crude pottery, were found. Pieces of charcoal were scattered through the mass. The bed of the stream at this point is especially fitted for the home of these mollusks; and it is evident that this was a cooking and eating place for many years. The examination of the locality is to be resumed during the coming season.

Chemical Substitution of Metals.—"A clean piece of iron dipped into a solution of copper vitriol becomes immediately coated with pure copper. If the iron is left long enough, the blue solution will turn green, indicating that the iron has been dissolved and the copper removed. The coating of copper has become thicker and thicker; and if the piece of iron was large enough, all the copper will be separated. It is plain that the iron and copper have changed places. This is a chemical *substitution*, and, with regard to the copper, a *reduction* from the sulphate to a metallic condition. The reason of this is the greater solubility of the iron. Zinc will thus reduce iron, lead, copper, mercury, silver, and gold; and these, each in the order given, will reduce those named after it. These substitutions were well known to the alchemists; but they erroneously supposed them to be conversions of one metal into another. Thus they supposed the iron thrown into a copper solution to be actually converted into copper, whereas in reality the iron is dissolved, and of course the copper is deposited at the spot where the iron acted upon the liquid."—*Prof. Hinrichs,—in Am. Jour. Mining.*

Manufacture of Soda—New Method. A German chemist takes the double chloride of aluminium and sodium, melts it, pulverizes it, and carries the powder by a blast of a fan into a retort heated to a very high temperature, into which enter at the same time a jet of superheated steam. Hydrochloric (muriatic) acid is formed, and aluminate of soda. The aluminate of soda, decomposed by carbonic acid, yields a very pure carbonate of soda, and alumina, which latter can be used over again. The hydrochloric acid is also a valuable product. The method has been much praised by the German scientific press.—*Gas Light Journal.*

Dissociation.—Henry Deville says that when hydrogen burns in ordinary oxygen there is never more than half combustion, even in the hottest part of the flame, owing to the "dissociative" tension of the watery vapor, which resists it. We diminish this, and increase the combustion, by increasing the pressure.

The Calamity at Gold Hill.

The telegraph has heen largely occupied for two or three days past in transmitting intelligence of one of the most terrihle mining accidents which has ever occurred in the history of mining on this coast. The lives of some thirty or forty men working in the Yellow Jacket, the Crown Point and the Kentuck mines at Gold Hill, Nevada. have heen lost in consequence of a fire breaking out in a drift ahove the localities in which they were working. The fire appears to have heen first discovered at the surface, hy the smoke issuing from one or two of the shafts; hut it had made such headway, that hut very few of those engaged below could escape. Every effort which humanity, skill or daring could devise, was made to reduce, as far as possihle. the effects of the calamity. The first dispatches received in this city created much excitement here, which was gradually intensified as the progress of the fire and the increased extent of the calamity was made known from hour to hour, hy telegraph.

In order to understand the nature of the accident, it should he horne in mind that these men were working a thousand feet or more below the surface in a locality which could he reached only through narrow shafts and drifts containing a large amount of dry timher supports. The fire seems to have hroken out in the Kentuck mine; hut as the level in which it occurred was directly connected with a level at the same depth in the adjoining Crown Point and Yellow Jacket mines, access was as effectually cut off from those mines as from the Kentuck. Each of the mines had its own shaft for entrance and exit; hut all three shafts were out off by the fire in the common level alluded to. A few escapes were made immediately on the alarm being given, but the flames spread so rapidly that at least thirty-two are known to have been completely cut off. Several of those who reached the surface did so at great hazard, from scorching flames and deadly gases, one or more of whom have since died. The wood-work which took fire was the timher and planks which supported the walls and the roof of the drifts, and which is very dry at that depth in those mines, some 800 feet helow the surface.

At last accounts the fire had heen so far subdued that access could he had to most parts of the mines, and up to ten o'clock on Thursday night, twenty-eight dead bodies had heen recovered; four more were known to be missing and possihly eight; one or two had died from injuries received while coming up. The cause of the fire has not yet heen ascertained and probably never will be. The most probable, and in fact the almost only reasonable surmise is that some one had thrust the metal socket of his candle into some dry board or piece of timber, at a distance from whero any one was working and left it there, in such a manner that when the candle burnt down, the blaze came in contact and set fire to the wood work.

The most lively sympathy has heen manifested in this city in hehalf of the bereaved families of the sufferers. The Board of Brokers promptly telegraphed $1,000 for their relief; a henefit is to be given them at the Alhambra Theatre, and several miscellaneous suhscriptions have been raised or set on foot in their behalf. The damage done to the mines is prohahly not very large. The Yellow Jacket is the principal sufferer. Eleven of the dead were married, two of whom left families of five children each.

P. S.—Since the ahove was in type despatches have been recieved up to 3 o'clock, P. M. yesterday, from which we learn that the fires broke out with still greater violence yesterday morning. All hopes of saving any more lives have been abandoned, and the shafts have been closed up, preparatory to attempting to smother the fire by injecting steam. There is now danger that the mines will he entirely destroyed. Additional mystery hangs about the origin of the fire, as some of those who escaped assert that an explosion was distinctly felt just as the alarm was given. The superintendant says that there was no powder in the mine, and that if an explosion occurred it must have been caused by gases coming from a source hitherto unlooked for in a gold or silver mine. The total numher of deaths is now known to he thirty-seven.

Academy of Sciences.

A regular meeting of the Academy was held on Monday evening, the President, Dr. James Blake, in the chair.

Dr. H. W. F. McNutt was elected a member, and L. A. Gould, of Santa Clara, and Captain Edward Pinney were proposed as members.

SPECIMENS AND DONATIONS.

Specimens of stalagmites were presented by W. F. Stewart, of San José, and dwelt upon by Dr. Kellogg in a paper on that subject. Donations to the library were received from Charles Crocker, Esq., Superintendent of the Central Pacific Railroad, consisting of stereoscopic views of rocks and scenery taken 5,000 feet ahove the level of the sea on the line of the railroad; and from various other parties, Bulletins of the Academie Royale of Bolgium, and other scientifio works in French and German; Lyceum of Natural History of New York; Catalogue of reptiles and hutrachians, found near Springfield, Massachusetts; Canadian Geologist and Naturalist; and Memoirs of the Academy of Sciences of St. Petershurg.

DIFFERENCE OF LONGITUDE BY TELEGRAPH.

Professor George Davidson described his operations for tho determiuation of longitude by telegraph. The former mode was hy chronometers carried to different points; also by eclipses or the moon's declinations. After repeated experiments, Mr. Davidson made the circuit hetween San Francisco and Cambridge, Massachusetts, in 82-100 of a second, the distanco heing 7,200 miles. Tho calculations of former moon determinations, were found to have been nearly correct hy the electric observations, the difference heing only one second—equal to a quarter of a mile of longitude.

THE PETALUMA MASTODON

was reported hy Mr. Bolander, who visited the locality of its discovery, to have heen scattered amoug drinking saloons, etc., mainly in this city. He examined the remnants with sufficient care to satisfy himself that it was a true mastodon.

THE COPPEROPOLIS SLATE QUARRIES.—Two specimens of a very superior article of roofing slate have been left with us by Mr. L. Honigsherger, formerly of Copperopolis, now of this city, and one of the owners of the newly-opened quarries hetween Copperopolis and Macarthy's, on the line of the proposed Stockton and Copperopolis Railroad. The entire country is of slate; and visitors to that section during the copper excitements will recall the characteristic sharp vertically-tilted ledges running east and west, from which these roofing-slates are now obtained. Only a few localities have heen found where the quality is sufficiently good for use. It is found that under water level the quality improves. These specimens are from the only mines that are worked at the present time, viz., from Honigsberger's, and Moore's. The latter company has put up a house to facilitate the prosecution of their work. Billiard tahle manufacturers in this city are heginning to use slate instead of marble to form the bed of the tables, alleging that it is equally good, and much cheaper.

The slate in question is perfectly laminated, in large pieces, and is of very fine texture. One of them contains specks of iron pyrites; the other is perfectly pure. The iutention is to cultivate a market in San Francisco. We have not heard any prices or contracts spoken of yet.

REYNOLD'S BULLION SEPARATION PATENT.—We are informed that the patent of John Reynolds for separating bullion bars without granulation, noticed in our last issue, has heen sold to Messrs. Reichling & Sage, the assayers and refiners, at No. 234 Montgomery street, San Francisco. Kellogg, Hewstou & Co. have the right to use it in this State.

The Southern Pacific Railroad—Inauguration Ceremonies.

The Southern Pacific Railroad Co., having put in operation the first section of their road from San José, celehrated the completion of the same on Thursday last. Although the cars have heen running upon this road for over a month, the magnitude and importance of the enterprise was considered of sufficient consequence to merit a formal inauguration, with fitting ceremonies. Accordingly a large numher of invitations were issued to the principal capitalists, merchants, and others, of this city, and to the editorial fraternity, for an excursion over the road. Some fifteen hundred persons, who responded to these invitations, assemhled at the depot of the San José road in this city at 9 o'clock, A. M., on the day appointed, where ample accommodations were provided by the Company. A hand of music was also in attendance. The day was as heautiful as could be wished, and the company, consisting of a large sprinkling of ladies, was as gay and joyful as could he desired.

On arriving at Sau José, ahout one thousand additional persons joined the train, and the whole party proceeded forward ou the new road, which winds, for the most of the distance, through a succession of valleys of nnsurpassed richness and heauty. It was ohserved that on this portion of the road the cars appeared to move more smoothly than upou the San José road, indicating that marked attention has been paid to the character of its construction. At Gilroy the train was recoived hy a great concourso of people, which had beeu gathered in from the town and the region round ahout. Cheers, flags, music, and placards hearing appropriate greetings comprised the demonstrations of joy on the occasion. The people were soon ushered into the Company's immense freight shed adjoining tho depot, where a suhstantial collation had heen provided. After the well sharpened appetites of those present had been satisfied, the assemhlage was called to order hy Mr. Angney, who introduced quite a numher of gentlemen as speakers, among whom were Messrs. George Barstow, W. H. L. Barnes, H. M. Newhall, Dr. Isaac Rowell, and others. The speeches were all well timed and to the point.

Mr. Newhall spoke particularly with reference to the road, alluding to the difficulties attending the construction of this, its first section; hut said that all difficulties were now fairly overcome, and that, in future, its coustruction would go right on, section by sectiou, until it should reach the Mississippi, and make a proper connection with the great system of roads to the East of that river. The remarks of Mr. Newhall was listened to with much attention.

President Newhall, Superintendent Hammond, and other officers and employés of the road, nsed every effort to secure the comfort and convenience of their gnests, with praiseworthy success, especially when we consider the immense company which availed themselves of their invitations. Much interest, we might say enthusiasm, was manifested hy the people all along the line, evincing a general waking up to railroad matters on the part of the people which we are glad to notice.

The excursion and the attendant ceremonies were in every respect a most complete success. The company reached this city, on its roturn, a few minutes after eleven o'clock P. M., without the slightest accident, and rejoicing heartily in so auspicious an inauguratiou of this first section of the great Southern Overland Railroad, which is destined to follow so closely the completion of its predecessor upon the Central route.

THE *Rural Gentleman* is the title of a new agricultural monthly, published by J. B. Rohinson & Co., at Baltimore, Md.

New Patents Issued to Pacific Coast Inventors.

FOR THE WEEK ENDING MARCH 2d.

87,335;—IMPROVED SEAT FOR STREET CARS. Charles H. Foster, San Francisco, Cal.:

I claim the movahle seat B, when hinged at the edge or front of the fixed seat, and provided with a leg or support S, which forms, when the seat is turned hack, an arm to divide the fixed seat, suhstantially as described.

This invention relates to an improved settee or extended seat, such as is used in street cars and other places where a numher of persons are to be accommodated. .The ahove claim fully explains Mr. Foster's manner of arranging the seats iu order to render them capahle of doing-double service.

87,340.—PROCESS OF WORKING SILVER ORES. Henry Janin, Virginia City, Nev:

I claim the use and application of the dichloride of copper (Cu^2 Cl) in tho treatment of all classes of silver ores, tailings, or slimes, whether worked in pans, harrels, or amalgamating tubs, and whether the dichloride of copper bo mado outside and apart from the ores, or whether it be made in the presence and during the treatment of the ores, tailings and slimes, hy the introduction into the pans, harrels, or amalgamating tubs, of the appropriate and necessary chemical ingredients.

This invention relates to an improved process for working silver ores, and is intended to avoid the losses, hoth of quicksilver and the silver itself, usually experienced in the present manner of working.

87,384.— HORSE-SHOE. — William Rickie Watson, Stockton, Cal.:

I claim the ahove described shoe for horses, consisting of a toe-piece, and two heel-pieces, adapted to fit together, suhstantially as described.

It is well known that the usefulness of the horse depends, to a great degree, on the endurance and strength of his foot, heing composed as it is of numerous small bones nicely arranged and adjusted so that when they are in a healthy condition they are capahle of exerting great strength and with great endurance. This part of a horse's foot should he allowed to expand freely, each part occupying its intended space, and when from any cause this expansion is checked, the consequence is that the foot hecomes diseased, and the horse will be crippled in his feet, so that his value is greatly impaired. This is especially the case when horses are shod when young, and allowed to retain the shoes a great length of time without changing.

This invention is intended to avoid this difficulty by constructing the shoe in three different parts, separating the two heel pieces from the toe-piece by means of V shaped joints. These joints are beveled, the toe resting on the bevel of the heel-pieces, thus giving the heel a chance to expand either way.

3,400. — BOOT DESIGN. — Amelia Strang, Oakland, Cal.

I claim the design or model for boots and shoes, herein set forth.

The object of this invention is to provide an improved model or design for boots and shoes, and more particnlarly for ladies' shoes, and it consists, first, in constructing the heel of the shoe in such a manner as to give a solid and firm base for the entire heel of tho foot, while the beauty and finish will he equal to the finest finished heel of ordinary use, without increasing its apparent size; and secondly, in making the shoe more nearly conform to the shape of the foot by manufacturing it wider where the hall or centre of the foot rests in wearing. It also consists in leaving the inside of the sole of greater thickness than the portion at the outside of the foot, and thinning it off gradually towards the toe.

3,402.—DESIGN FOR TABLE SERVICE.—W. K. Vanderslice and Lucius Thompson:

We claim the design or pattern for tahle service, herein set forth.

This is a design for embellishing the different articles of a table service, and we can say from personal inspection of some of the wares bearing the design, that it makes a neat and rich service. Messrs. Vanderslice & Thompson, patentees, have heen long established in this city as practical manufacturers of silverware.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

SAN FRANCISCO, April 10, 1869.

City Stocks.

In miscellaneous stocks the market remains rather quiet. We note sales of San Francisco Gas Co. stock at $78 50@80, and at the close 100 shares at $79, and ten shares of Pacific Insurance Company stock sold at $127. A dividend of 1 per cent. per month for the past three months will be paid on the 12th instant. The Union Insurance Company also disburse a like dividend on the same date. Their statement, deducting all liabilities and allowing for reinsurance of outstanding risks, shows a net surplus of $102,247. The Occidental Insurance Company will disburse a similar dividend as the above on the 10th instant. The stock of this company has recently appreciated considerably. The second monthly dividend, 1 per cent., of the People's Insurance Co is payable on and after to-day. The Home Mutual Insurance Co. will disburse its first dividend on the 15th inst., amounting to $6,672 on the 20 per cent. of capital stock paid in, which is equal to 2 per cent. on the capitol stock, or 10 per cent. on the amount paid in, for the quarter ending March 31st. We are gratified to see the improved condition of our local insurance companies.

Mining Share Market.

During the past three months, the stock market did not acquire activity as Spring approached, as was the case the year previous, but, on the contrary, activity and prices diminished rapidly. This was due to the non-success of persistent drifting in the deep levels, and until very recently matters looked very discouraging. We are now enabled to record better success, which it is confidently believed will be more general as time advances. Greater activity is manifesting itself, and a largely increased business may soon be looked for.

The fire in the Yellow Jacket, Kentuck and Crown Point is causing a great consternation and excitement in the stock market, and these stocks have declined very much within the past few days.

Since our annual review, early in the present year, in consequence of the repeated evidences of the value of the White Pine district, the minds of a large number of our citizens have been turned into the mining channel, and which will result in more activity and production of the precious metals for the ensuing year than the one past. As far as capital is concerned, the White Pine excitement is characterized with more caution and prudence than is generally supposed from the number of incorporations formed within the past quarter for operating in that district—there being at the present time 169 that are formed for operating there. That the product of bullion from White Pine, as soon as mills can be erected, is going to be highly encouraging, no one doubts; but that all the mines or incorporations are to be paying ones, no one must expect; there are prizes as well as blanks, and time, with development, can only determine which they are. It is conceded, however, by those who are familiar with the eastern portion of California and what is known on the map as the "unexplored region" of both California and Nevada, that the multitude are flowing into what may be considered the great mineral basin of the Pacific, and which extends not only north of White Pine and into our neighboring territories, but southwesterly to the Sierra Nevadas, and thence southerly to the Colorado River.

Already we see material improvements in our mining interests, as illustrated by the dividends of mining incorporations in this city—the last quarter being, in that respect, $159,400 in excess of the preceding quarter, and $397,100 more than the first quarter of 1868. If private institutions have advanced at the same ratio—and we have every reason to believe so—we must regard the prospects of future prosperity in this channel exceedingly flattering. One of the features of the past quarter is the entering among the dividend-paying companies of Storey County, Nevada, of the Occidental, a mine off of what is considered the Comstock range. This mine was located in the earlier days, and for years was considered as unimportant, being regarded as of but little value save as a lime deposit, and from the fact that is was not on the Comstock, until private enterprise finally developed it into an important mine. This fact has given life to other outside locations and we look, during the ensuing months, to developments that will maintain the stability of Virginia City and its surroundings. Of the Comstock companies, we can only note dividends during the past quarter from three, viz: the Yellow Jacket $369,000, Savage, $168,000, and Kentuck, $40,000. The remaining companies, however, have been extracting considerable bullion, pushing developments, and holding ore in reserve for better roads and cheaper transportation. From the Empire, Imperial, Consolidated Alpha, and Gould & Curry there is no very material change as to defining the ultimate results of the Comstock lode.

At the same time that Nevada has taken quite a stride, both in developments and population, California cannot be considered as by any means retrograding in her mining interests. The storms during the past quarter have kept up fully the supply for sluicing and gravel mining purposes, and deposited enough snow in the higher portions of the Sierras to insure a steady supply of water for some time to come. From every quarter we have as encouraging accounts of yield as have characterized the same quarter for the several years past. With the decrease of the richer deposits, there come in corresponding advantages by the way of cheaper labor and labor-saving supplies, such as powder, mechanical drills, etc., which keep the flow of gold quite regular. In quartz mining, the counties of Nevada, Mariposa, Amador and Calaveras, have fully maintained their position as the leading ones of the State. Mariposa, we may say, has materially advanced in her prospects. In each of the above there is considerable activity by the way of new machinery and new systems of working the ores. The lower counties, viz: Tulare, Kern and Fresno, have been less successful, not from the fact that the ore is not good, but that the most of the precious metal carries with it a slight percentage of antimony, or other rebellious substance, which interferes with the collections of the gold by the present system of milling. As soon as this evil is overcome, these counties should send their full quota of gold to market.

During the first three months of the present year, Belcher, Bullion, Raney, and Overman levied assessments, aggregating $156,240, and Kentuck, Savage and Yellow Jacket disbursed dividends amounting to $588,000. These figures of Comstock claims compare with previous statements as follows:

First quarter, 1869—Assessments	$156,240
First quarter, 1869—Dividends	588,000
First quarter, 1868—Assessments	357,500
First quarter, 1868—Dividends	310,000
First quarter, 1867—Assessments	230,780
First quarter, 1867—Dividends	790,000
First quarter, 1866—Assessments	474,800
First quarter 1866—Dividends	90,000

GOULD & CURRY—During the past quarter of 1869, they have experienced great difficulty in carrying the shaft to a greater depth. During the month of March they extracted bullion amounting to $7,500 from the upper works. Telegraphed an improvement in quartz yesterday morning.

SAVAGE—This has been the largest producing mine on the ledge. The bullion returns during the past quarter were as follows: January, $176,100; February, $174,300, and March, $173,800—total, $524,200. The dividends disbursed during the same time aggregate $168,000. A dividend of $4 per share will be paid on and after to-day.

HALE & NORCROSS—This mine continues to look well, and is again yielding considerable quantities of ore. Letters to the 7th inst. state that in running north from the south drift on the fourth level the ore is found to be about ten feet wide, and of medium quality. The 175 level continues to look favorable, but great difficulty is experienced in opening the station on the 300 level. The bullion returns for March aggregate $91,465, with final clean-up from Belden mill to hear from. No bullion receipts in January and February.

YELLOW JACKET—has been one of the most active stocks during the first quarter of the present year, selling at $68 50@93 50 in January, $75@79 50 in February and $66 50@75 in March. Owing to the fire which broke out in this mine on the morning of the 7th inst., through which many lives were lost by suffocation, this stock dropped to $36 on the following day, and closed at $37 50. The dividend of $5, announced as payable on the 15th, has been rescinded. The ore found on the 800-level is reported to be more extensive than was expected. Dividends amounting to $369,000 were disbursed during the first quarter of 1869. We have not yet been advised as to the amount of bullion extracted during the same period.

KENTUCK—sold to a large extent at a decline on the receipt of the news in regard to the fire, dropping to $285, on the 7th, and at the close selling at $290. The bullion for the first quarter of the current year amounted to $201,088. A dividend of $10,000 was paid in January last.

CROWN POINT—The fire which broke out in the Yellow Jacket on the 7th, carrying the draft through the Kentuck and Crown Point drifts, caused this stock to fall to $38 on that day, and to $46 50 on the following, closing yesterday at $34. The bullion receipts for the first quarter of 1869 aggregated $93,130.

The annexed tabular statement of bullion receipts, assessments and dividends, together with the highest and lowest prices of the stock of the various Comstock claims, explains itself. The product of the Yellow Jacket and Occidental companies we have estimated:

COMPANY.	Highest Price.	Lowest Price.	Bullion.	Assessments.	Dividends.	Highest Price.	Lowest Price.	Bullion.	Assessments.	Dividends.	Highest Price.	Lowest Price.	Bullion.	Assessments.	Dividends.
	JANUARY.					FEBRUARY.					MARCH.				
Alpha	$59 50	$25 00									$33 00	$27 50	$33,000		
Belcher	22 00	15 00									25 00	20 00	25,000		
Bullion	70 00	50 00									44 00	30 00			
Confidence	177 50	120 00									200 00	150 00			
Crown Point	93 00	46 50	$38,488			46 50	34 00	7,929			38 00	25 00	7,929		
Chollar-Potosi	158 00	90 00	90,700			118 00	75 00	74,869			158 00	118 00	110,392		
Empire M. & M. Co	120 00	80 00				100 00	75 00				100 00	75 00			
Gould & Curry	119 00	80 00	13,695			100 00	75 00	15,217			100 00	75 00	18,217		
Gold Hill Q. M. & M. Co.	50 00	35 00				50 00	35 00				50 00	35 00			
Hale & Norcross	62 00	45 00	6,936			55 00	45 00	7,500			55 00	45 00	7,500		
Kentuck	140 00	90 00	10,000			100 00	75 00	10,000			100 00	75 00	10,000		
Lady Bryan	19 00	13 00				15 00	11 00				15 00	11 00			
Occidental	215 00	140 00	83,335		40,000	200 00	150 00	54,074		40,000	200 00	150 00	63,739		40,000
Ophir	65 00	45 00				60 00	45 00				60 00	45 00			
Segregated Belcher	23 00	16 00				21 00	16 00				21 00	16 00			
Savage	158 00	90 00	40,000			160 00	75 00	74,869			160 00	75 00	74,869		
Sierra Nevada	50 00	35 00				50 00	35 00				50 00	35 00			
Savage	57 50	36 00				52 50	33 00				52 50	33 00			
Yellow Jacket	93 00	68 50	36,000			79 50	66 50	15,168			75 00	36 00	15,168		
Total in 1869			$673,560	$16,000	$80,000			$390,759	$25,000	$40,000			$363,813	$20,000	$40,000
Total in 1868			481,016	294,800	310,000			503,333	110,000	280,000			503,333	253,000	280,000
Total in 1867			1,022,317	110,080	790,000			1,014,238	126,700	300,000			1,014,238	23,000	300,000
Total in 1866			671,536	69,700	90,000			804,101					804,101		

CHOLLAR-POTOSI—is in much better request, improving to $188 50 during the past week, and closing at $182. The bullion yield in March is quite large, amounting to $110,392, and for the quarter aggregating $235,961.

IMPERIAL—is quiet, selling at $90@86 during the past week, and closing yesterday at $87 50. Nothing of an encouraging nature has yet been found in the lower levels. They have resumed work in the lower drifts with renewed energy. During the three first months of 1869, the bullion receipts amounted to $123,680.

OPHIR—has been quite active within a few days past, closing at $33 bid. On the 7th inst., the rock had not changed much, but an increase of the clay is somewhat more encouraging. The drift is in 153 feet....CONFIDENCE shows a bullion yield of $18,889 during the first three months of 1869; and GOULD HILL QUARTZ, $17,701 for the same period; OVERMAN, $12,170 during same time.

THE NEW YORK COPPER MARKET.—Winterhoff in his circular of March 5th, says: Copper has been during the entire month completely unsettled by the uncertainty in regard to the tariff. At one time quite a large business was done at 27c. for Lake and 26¾c. for Baltimore, but the market became dull again, and since the final passage of the hill a week ago scarcely any transactions have taken place. To-day's quotation is nominal 26¾c. for both kinds.

WHITE PINE LETTERS AND EDITORIALS continue to be very numerous, the tone of the latter and of half of the former being cooling, but not sufficiently so to have much effect on a fever which must run its course. The letters are made up of an infinite amount of detail. White Pine continues to be "the hub."

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Alpha Cons., Storey co., Nev., div. $2	Pay. June 19, 1868	
Almaden, Nevada, March 17, $5	April 20	May 3
Accidental, White Pine, March 30, 25c	April 30	May 30
Aurora Cons, White Pine	Annual Meeting, April 12	
Amador Co., div. $6 per share	Payable April 7, 1869	
Almaden, Nevada	Annual Meeting, April 16	
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Belcher, Storey co., Nev., March 15, $3	April 17	May 3
Bullion, Storey co. Nev., March 24	Payable immediately	
Chollar-Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7 50	Payable Sept. 12, 1868	
Cleopatra Mt Tun., White Pine, Feb. 2, 30c	Mar 15	Ap. 20*
Coney, preferred Stock, div. 1½ per cent	March 10, 1869	
Cherokee Flat, Butte co. March 1, $5	April 3	April 20
Cordillera, Mex., March 16, $1	April 20	May 10*
Coney	Annual Meeting, April 10	
Daney, Lyon co. Nev., March 8, $2.50	April 12	May 1
Douglas White Pine	Annual Meeting, April 12	
Empire M. & M., Nev., dividend $5	Payable May 15, 1867	
Eureka, div. $10	Payable April 6, 1869	
El Taste, Sonora, March 22, 50c	April 23	May 17
Folsom St. & Ft. Pt. R. R March 13, $5	April 13	April 30
Goudt & Curry, div. $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Charlot, Idaho, div. $2.50	Payable March 20, 1869	
Golden Rule, Tuolumne co, div. 50c & sh	Pay April 7, 1869	
Glenwood, El Dorado co	Annual Meeting, April 30	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hope Gravel, Nevada co., April 6, $1	May 10	May 31
Hidden Treasure, White Pine	Annual Meeting April 5	
Imperial, Storey co., Nev., div	Payable June 20, 1868	
Julia, Storey co., Nev., March 19, $2.50	April 22	May 10
Julia, Storey co., Nev	Special Meeting, April 26	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Keystone	Meeting April 2	
Lyon M & M., El Dorado co., Mar. 6, $1	April 12	April 26*
Mt. Tenabo, Lander co., Jun. 23, 75c	April 2	April 27*
Maxwell, Amador co., Feb. 9, $1	March 13	April 1
Morning Star, Alpine co., March 3, $2	April 5	April 26
Mohawk & Montreal, Nev. co., $3	March 31	April 16
North Star, dividend, $5	Payable Aug. 15, 1868	
North Amer. Wood P. Co., March 12, $1	April 14	May 1*
Occidental, div. $2	Payable March 2, 1869	
Overman, Storey co. Nev., March 20, $20	April 23	May 8
Pacific Unassessable, div	Payable June 18, 1868	
Pacific, Coal, Contra Costa co., Mar. 20, $4	Ap. 27	May 17*
Quail Hill, Calaveras co., April 2, $10	May 1	May 31
Rising Star, Idaho, Feb. 8, $6	March 31	April 3
Santiago, Silver City, dividend, $2.50	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1	Payable Jan. 5, 1869	
Star Creek, Nev., Feb. 26, $1.50	March 29	April 19*
Savage, Virginia, Nev., dividend, $4	Payable March 4, 1869	
Senator, Storey co., Nev., March 26, 50c	May 1	May 28*
Silver Sprout, Inyo co, March 25, 50c	May 1	May 28*
San Buenta Ventura	Annual Meeting April 19	
Sierra Nevada, Storey co., March 15, $3	April 17	May 3
Sierra, Douglas co., Nev., March 25, $5	April 25	May 11
Treasure Trove, Lander co., Feb. 15, 20c	Mch 21	April 12
Troy Ledge, White Pine, March 16, 15c	April 23	May 24*
Troy Ledge, White Pine	Annual Meeting, April 19	
Virginia & O. H Water Co., Dividend, payable Mar. 10, 1869		
Virginia, No. 2	Annual Meeting, April 19	
Williamantic, White Pine, March 22, $1	April 24	May 12
White Pine Smelting Co	Annual Meeting April 20	
Yellow Jacket, div., $5	Payable March 15, 1869	

Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

[S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, April 9, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 87	88
United States Bonds, 5 20s, 1864	87½	88½
United States Bonds, 5 20s, 1862	89	90
Legal Tender Notes	77	77½
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par & Int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	83	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & Int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1856	91	—
San Francisco City and Co. Bonds, 7s, 1862	91	—
San Francisco City and Co. Bonds, 7s, 1864	91	—
San Francisco City and Co. Bonds, 7s, 1865	91	—
San Francisco City and Co. Judg. Bds. 7s, 1863	91	—
San Francisco City and Co. Judg. Bds, 7s, 1864	91	—
Sacramento City Bonds	30	—
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	80	85
Santa Clara County Bonds, 7s	76	77
Sutte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	—	—
Spring Valley Water Co	67	68
State Telegraph Co	26	—
GAS COMPANIES.		
San Francisco Gas Co	77	79
Sacramento Gas Co	85	—
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	72½	—
Central Railroad	50	—
North Beach and Mission Railroad	72½	74
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	160
People's Insurance Company	100	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	98	100
Pacific Insurance Co	125	127
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	100	101
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	85	90
MINING STOCKS—WASHOE DISTRICT.		
Alpha	28	29
Baltimore American	—	—
Belcher	17	18
Bullion, G. H	11	14½
Crown Point	53	54
Cole (Va.)	—	—
Confidence	32	35
Consolidated Virginia	5	6
Chollar-Potosi	181	182
Daney	5	—
Exchequer	16	—
Empire Mill and Mining Co	50	55
Gould & Curry	126	127
Gold Hill Quartz	43	44
Hale & Norcross	88	90
Imperial	85	86
Julia	—	—
Justice and Independent	7½	13
Kentuck	254	255
Lady Bryan	11	12½
American	—	27
Occidental	—	—
Ophir	33	33½
Overman	53	54
Segregated Belcher	7½	8
Savage	77	78
Sierra Nevada	50	—
Union	—	—
United States	—	—
Yellow Jacket	67	67½
MISCELLANEOUS MINING STOCKS.		
Amador (California)	285	290
Aurora, White Pine	10	25
Eureka, (California)	230	240
Golden Charlot (Idaho)	45	50
Silver Cord (Idaho)	8	—
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocotillo, White Pine	—	—

San Francisco Market Rates.

Wholesale Prices.

	FRIDAY, April 9, 1869.
Flour, Extra, ₱ bbl	$5 25 @ $5 50
Do. Superfine	4 50 @ 4 75
Corn Meal, ₱ 100 lbs	3 25 @ 3 50
Wheat, ₱ 100 lbs	1 50 @ 1 65
Oats, ₱ 100 lbs	1 75 @ 2 05
Barley, ₱ 100 lbs	1 75 @ 2 10
Beans, ₱ 100 lbs	6 00 @ 7 00
Potatoes, ₱ 100 lbs	75 @ 90
Hay, ₱ ton	10 00 @ 16 00
Live Oak Wood, ₱ cord	9 00 @ 10 00
Beef, extra, dressed, ₱ lb	11 @ 12
Sheep, on foot	3 00 @ 3 25
Hogs, on foot, ₱ lb	5 @ 7
Hogs, dressed, ₱ lb	9 @ 10
GROCERIES, ETC.	
Sugar, crushed, ₱ lb	— @ 1¾
Do. China	10 @ 12
Coffee, Costa Rica, ₱ lb	— @ 18
Do. Rio	16¾ @ 17
Tea, Japan, ₱ lb	75 @ 90
Do. Green	60 @ 1 25
Hawaiian Rice, ₱ lbs	— @ 10
China Rice, ₱ lb	6 @ 7
Coal Oil, ₱ gallon	48 @ 50
Candles, ₱ lb	16 @ 18
Ranch Butter, ₱ lb	35 @ 40
Isthmus Butter, ₱ lb	27½ @ 42
Cheese, California, ₱ lb	15 @ 19
Eggs, ₱ dozen	25 @ 35
Lard, ₱ lb	15 @ 16
Ham and Bacon, ₱ lb	14 @ 15
Shoulders, ₱ lb	7 @ 8
Retail Prices.	
Butter, California, fresh, ₱ lb	45 @ 50
do. pickled, ₱ lb	30 @ —
do. Oregon, ₱ lb	20 @ 25
do. New York, ₱ lb	35 @ 40
Cheese, ₱ lb	20 @ 25
Honey, ₱ lb	25 @ 30
Eggs, ₱ dozen	45 @ 50
Lard, ₱ lb	16 @ 18
Hams and Bacon, ₱ lb	20 @ 25
Cranberries, ₱ gallon	1 00 @ 1 25
Potatoes, ₱ lb	1½ @ 2
Potatoes, Sweet, ₱ lb	3 @ 5
Tomatoes, ₱ lb	3 @ —
Onions, ₱ lb	3 @ —
Apples, No. 1, ₱ lb	4 @ 5
Pears, Table, ₱ lb	5 @ 7
Plums, dried, ₱ lb	10 @ 12
Peaches, dried, ₱ lb	10 @ 12
Oranges, ₱ dozen	75 @ —
Lemons, ₱ dozen	50 @ 75
Chickens, apiece	— @ 75
Turkeys, ₱ lb	25 @ 30
Soap, Pale and C.	7 @ 12
Soap, Castile, ₱ lb	21 @ 22½

New Incorporations.

Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

UNION PACIFIC RAILROAD HOMESTEAD ASSOCIATION.—San Francisco. April 3d. Capital stock, $45 000; 200 shares, $225 each. Trustees: H. L. King, E. Worth, W. H. Knight, A. B. Forbes, J. K. S. Latham, Jacob Bacon and N. Heath.

ILLINOIS S. M. CO.—White Pine, Nev. April 3d. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: B. H. Freeman, Jas. R. Garniss, James H. Cutter, E. H. Shaw and David Bush.

CASTLE TRACT HOMESTEAD ASSOCIATION. San Francisco. April 5th. Capital stock, $26,250; 105 shares, $250 each. Trustees: Thos. Kerr, D. Steffens, Michael J. Hopkins, G. Evans, A. S. Gould, F. B. Wilde and Geo. Fritch.

REGENT STREET HOMESTEAD ASSOCIATION. San Francisco. April 6th. Capital stock, $45,449; 125 shares, $355 each. Trustees: E. P. Heald, B. J. Wise, E. W. Schneider, G. W. Chapin, C. J. King, Wm. Koch, Sam. Foster, A. Rosenfeld and James F. Crosett.

MISSION AND PACIFIO WOOLEN MILLS CONSOLIDATED.—San Francisco. April 6th. Capital stock, $5,000,000; 50,000 shares, $100 each. Trustees: J. D. Fry, Donald McLennan and H. F. Williams.

POGONIP FLAT S. M. CO.—White Pine, Nev. April 9th. Capital stock, $2,400,000; 24,000 shares, $100 each. Trustees: John Sime, B. H. Hastings, George L. Kenney, John Taylor, and S. P. Kimhall.

A new Board of Brokers, to be called the CALIFORNIA STOCK EXCHANGE, has been organized for the purpose of dealing in White Pine stocks. President, S. Heydenfeldt; Vice President, Wm. H. V. Cronise; Secretary, Wm. V. Wells; and T. C. Sanhorn, Caller. The number of members is limited to eighty.

REVOLUTION IN THE SHAKER SETTLEMENTS. One of those brown-coated, broad-skirted, broad-brimmed individuals who believe in Ann Lee, celibacy, and the double-shuffle style of worship, recently entered the store of a somewhat facetious druggist in Philadelphia to obtain a supply of medicines for the community to which he belonged. When he had purchased the usual assortment of drastic purgatives, soporifics, mineral poisons, etc., the proprietor of the establishment informed him that he was in receipt of letters from the principal Shaker settlements in the country, stating that the inhabitants were abandoning their former habits and becoming like the rest of the world. The revcrend elder smiled incredulously, but the druggist protested on his honor that it was a fact, and he could not only prove it, but show his visitor the means by which the revolution had been accomplished. Thereupon he placed upon the counter a bottle of Plantation Bitters. The saint didn't see it, but when the man of drugs explained to him that the great vegetable tonic was curing ague and fever in every malarious district, it dawned through his hair, that, medicinally speaking, it was annihilating *Shakerism*.

CANTON FLANNEL, on the authority of C. Muller, of the Spectacle Emporium, in the Russ Block, in this city, is the best material, for wiping the glasses of spectacles.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

From the *Miner*, March 20th:

MORNING STAR.—The drift running from the new shaft to intersect the works at bottom of incline, made the connection this week, the distance being 50 feet. Nothing now seems to be in the way to prevent the raising of ore and the consequent prosperity of the mine.

At the miners' mass meeting on Wednesday, it was voted that undeveloped mining claims be valued at the rate of $5 for each 200 feet, for the purpose of assessment;—although in the opinion of the meeting legally not assessable. It was also resolved that the several mining districts he requested to pass a law pronouncing all undeveloped claims upon which the taxes were not paid, abandoned and subject to re-location.

Chronicle, March 27th:

THE PENNSYLVANIA MINE.—Superintendent Carlson yesterday cut into the ledge, in both drifts, about five feet from the tunnel, striking a body of rich ore, different from that in the tunnel. Four assays have been made of the rock taken out where the ledge was first cut, all of which are satisfactory. Some red rock from the end of the table, thought to be entirely worthless, assayed in San Francisco $12.44; blue ore, assayed by Goldsmith Bros., San Francisco, $22 in silver and $12.50 in gold—$34.50; the clayey ore assayed by Wiegaud, of Virginia, returned $12.58 in silver and $5.34 in gold—$19.92, and quartz assayed by the same party returned $12.95 in silver and $6.28 in gold—$19.23 per ton. The ledge is well defined, from eight to ten feet wide, half of which is solid quartz; and putting the ore at $15 a ton, it is a "big thing," owing to the immense quantity that can be taken out, and the great facilities the company has for mining and working it. Some of the stockholders, after allowing themselves to be sold out and letting others develop the mine, are now anxious to get their stock again, but they are too late. The stock, a short time before the ledge was struck could be bought for $10 a share. Yesterday parties here offered $50, but none can he had at any price.

We learn that the agent of the Tarshish mine has arrived at San Francisco from the East, and will soon arrive in this county to look after the interests of the Schenectady Company.

The strike in the Penusylvania mine has made Mountain stock look up, and those who expect to get it for the assessments at the sale will he disappointed.

AMADOR COUNTY.

Ledger, April 3d:

THE KENNEDY.—This mine has now been running six months. Last week we visited it. Everything about it is of the most substantial character, and the timbers have been put together in the best manner. The engine is a perfect beauty and works to a charm. Everything about the establishment shows a good management. The work at the mine is carried on under the direction of Mr. James Fleming, one of the owners. The "Kennedy" is paying its proprietors a fair compensation for their industry and perseverance.

CALAVERAS COUNTY.

Chronicle April 3d:

We are informed that the Water Co's ditch is now employed to its full capacity, a thousand inches of water being run, which is scarcely sufficient to supply the demand. The Company are digging a branch ditch for conveying water to Red Hill, near the Buckeye. There are a number of claims in that vicinity, known to be rich.

EL DORADO COUNTY.

Placerville *Democrat*, April 3d:

IMPORTANT SALE.—We understand that on Monday last Mr. S. J. Freyer sold his extensive gravel claim, on Reservoir Hill, to B. T. Hunt, of the South Fork Canal, for the sum of $3,600.

TWO LARGE NUGGETS.—On Saturday last, says the Sacramento *Union* of Tuesday, Daniel Leahey and Francis Coyle found two gold nuggets at Gray's Flat, El Dorado county, one weighing 136 and the other 64 ounces of gold, exclusive of quartz.

INYO COUNTY.

LONE PINE.—A Los Angeles dispatch of April 5th, is as follows: Four wagons reached here to-day from Lone Pine district, bringing fifteen tons of argentiferous lead bars from the Union Mine. It is destined for San Francisco.

The Los Angeles *News*, of March 19th, says: Eight tons of silver and lead bullion from the Cerro Gordo mine, Lone Pine district, reached this city day before yesterday. It is estimated by competent assayers to contain 500 pounds of silver to the ton. Fifteen tons from the same mine will be here in a few days.

The *Star*, of March 27th, has these items from Lone Pine:

The mill of Wolfskill & Cervantes, which is to be of five stamps, with four ovens, was delivered at the mine, the Union, on the 13d inst., and a contract immediately entered into to have it erected and in complete working order by the 10th of June....

The Belcher works turn out more ore than they can find wagons to haul. There are four principal mines in the locality, the San Ignacio, the Union, the Belmont and Pedro. The Belmont is turning out better than the others. Belcher is buying the ore at $220 per ton. The mode of smelting is rather primitive. A platform is dug out, on it is erected a pair of bellows, the ore is brought to it, and by hand the bellows are worked, and the lead runs out. In this manner, at the Pedro claim, a bar of pure silver weighing 20 pounds, was run out in a day. The Belcher works turn out from 50 to 60 bars a day. The shaft of the Union mine is down 100 feet.

MARIPOSA COUNTY.

Gazette, April 2d:

BENTON MILLS.—We learn that the Mariposa Co. have the frame of their new 25 or 30-stamp mill already erected at Benton mills, and the remaining work is being pushed forward as fast as practicable. This mill is to be driven by a turbine wheel, and will stand nearly upon a level of the spalling shed, several feet above the highest water. The mill already running is reported to operate well, and the rock is increasing its yield.

NEVADA COUNTY.

Transcript, March 30th:

THE BED ROCK TUNNEL COMPANY VS. BELL ET ALS.—The case of the Bed Rock Tunnel Co. vs. Bell and others, was concluded yesterday, giving plaintiffs the American ground, the defendant the Monte Christo ground and the Railroad claims, and the plaintiffs the Cassin claims. The jury also made a general finding of $800 damages in gold coin for plaintiffs.

SCOTT'S FLAT.—Four companies are at work. In Ashburu & Baker's diggings a cave occurred on Saturday and it will require some time to clean out the mine. Word came down yesterday that eight or ten good men could get work at Scott's Flat and Quaker Hill.

LITTLE YORK.—The Little York Hydraulic Mining Co. is now working three sets of diggings, and after a run of 10 days cleaned up $7,000. There are two or three other companies in that vicinity whose claims are paying first rate....Two Chinese companies are at work. One of them is working the old Buckman claims ...At Remmington Hill there are four companies at work, two drifting and two sluicing. They have just commenced getting water, and their prospects were never better.... At Excelsior Hill, two miles from Remmington Hill, a company of six are at work, and their claims are paying well.

Same of 31st:

NUGGET.—Recorder Slack yesterday showed us a nugget of pure gold worth $297, which was taken from Squirrel Creek, near Rough & Ready.

Same of April 1st:

MINING AND FLUMING.—The Dean Co. have located 10,800 ft. of the North Fork of Deer Creek for mining and fluming purposes. The Cascade Co. have located 12,200 ft. on the main branch of Deer Creek.

April 2d:

NEWS FROM THE FOOT HILLS.—Mooney Flat has been taken in hand by men of capital, and the prospect is encouraging. R. L. Crary & Co. propose to start a tunnel in a few weeks from the face of the Peterson claims on the Sucker Flat side of the ridge, and run through to tap the Mooney Flat tunnel, which is supposed to be fully as rich as the claims on the other side. The miners held a meeting a few evenings since, and elected a recorder. At the same time enough was raised to buy a safe in which to preserve the records of the district. Considerable activity is manifested in the sale and purchase of mining claims.

MORE GOLD.—Frank Morse has just had another clean up of a month's run from his mine, the Hitchen & Larrimer ledge, and the result is $8,000 from 300 loads of rock, an average of $25 per ton.

Gazette, March 30th:

MOORE'S FLAT.—We are informed that the miners of that locality have their claims in active operation, and are making up for time lost by the breaking of the ditch in January.

BANK BLAST.—A bank blast of 304 kegs of powder, was set off in the claims of Weston, Holmes & Co., at Blue Tent, on Saturday last. The tunnel was run 65 ft. into the hill, and the cross tunnel, in which the powder was placed was 140 ft. in length. The blast did good execution, pulverizing a large quantity of gravel, which will be worked this spring and summer.

NORTH BLOOMFIELD.—The Gravel Co. are conducting their operations upon a mammoth scale. Their main ditch supplies 800 inches of water, and smaller ditches half as much more. This is all used by the company, who have four pipes running, each with a 3½-inch nozzle. When their ditch is completed to the English lakes the company will have more water than will be needed, and the surplus will be sold.

Same of 31st:

HUNT'S HILL.—The miners are at work in earnest. The Eastern Co., employing 12 men, are running their mill night and day, and taking out on the average, $1,000 a week. The Gougeye Co., working cement claims, employ 10 men, and take out from $300 to $400 a week. Muffler & Hanley employ 15 men in their hydraulic claims, and are understood to be doing a good business. The times at Hunt's Hill are better than at any period for the last six years.

Same of April 3d:

RICH ROCK.—We saw yesterday, at the Eureka mine, Grass Valley, $5,000, worth of specimens, in about 400 lbs. of hard rock, all taken from the drifts in the fifth level, at a depth of 600 ft. The drifts in this, the lowest level, are now run 150 ft. each way from the incline. The indications are that the mine will hold out for many years to come. The stock in this mine is now valued at $1,000,000. The gross yield of the quartz crushed for the month of March, is $47.000.

GOOD SULPHURETS.—Mr. Deetkin showed us a gold brick yesterday weighing 128 1-10 ozs., the result of the working of 20 tons of sulphurets at the Eureka sulphuret works, from rock crushed at the Idaho mine. The assay was $4,530, and the actual yield was $4,450—or 98 per cent. of the assay.

Grass Valley *National*, March 30th,

EUREKA MINE.—We visited this mine yesterday. The shaft is down about 600 feet. We found the men working in the fourth and fifth levels, stoping up from the fifth to the fourth, and from the fourth to the third. On the fourth level the drifts extend about 1,200 feet, nearly reaching the Idaho claim on the east. On the fifth level they have drifted 300 feet.

THE IDAHO bids fair to be a second Eureka. They are drifting and stoping on the second and fourth levels, and sinking, being now down 480 feet. They were melting, yesterday, the proceeds of the last run of twelve days, the result of which was $14,000.

Same of April 1st:

ALLISON RANCH.—In three or four days 12 stamps will be started at work crushing rock from the croppings of the original working. An immense pile of rock is on the ground, and is said to prospect well. The pumps will start in about two weeks.

Brown Brothers, near You Bet, last Saturday, after a run of four days with eight stamps, cleaned up 35 pounds of dry amalgam, which at $10.50 per ounce, avoirdupois, amounts to $5,880. The claim is on the celebrated Blue lead.

Grass Valley *Union*, April 1st:

HOWARD HILL MINE.—We saw some specimens of quartz yesterday, rich in gold and sulphurets, from the Howard Hill mine, better known as the "Lucky." This mine has been worked for some time by a company of practical miners, under a lease. Their work has been done altogether in the old levels, the lowest of which is 280 feet below the surface, and from which they have been taking out excellent rock. Their run for two weeks, to the 31st of March, was 300 tons, which paid $30 per ton.

The West Eureka Co. have made application for a mineral patent to their claim.

Same April 4th:

WILLIAM PENN MINE.—This mine continues to look well. The shaft is now down 61 feet. The ledge is two feet thick, and has been gradually widening all the way down. The walls are very regular. The rock taken is first class, showing well in free gold, sulphurets and galena, and fine gold intermixed with the sulphurets.

PLACER COUNTY.

Auburn *Stars and Stripes*, April 1st:

TO BE SOLD.—Constable Higgins advertises for sale the Black Lead, Bald Hill, Lone Star district, together with all the appurtenances, to satisfy a judgment and costs amounting to $274,88.

PLUMAS COUNTY.

Quincy *National*, March 27th:

ARGENTINE.—We understand that the placer miners are doing first rate. The Knisely & Co. quartz mill and mine in that section has changed hands, and will commence crushing rock shortly.

North Fork correspondent of same:

Balliett & Co. are still working the old Bamboo. Bryan & Boston are digging a race to turn the river at the lower end of Bamboo Bar. Perley & Bowers got their hydraulic running, at Sunnyside, last week. They have a large piece of deep ground. The old Dutch Hill Co. are putting a pump in their tunnel, to run by water. They ran a bed rock tunnel, but at a distance of 800 feet the rock dropped off. The boys followed it down about sixteen feet, and found good prospects all the way. Ferguson & Wagoner have been running a bedrock tunnel all winter, and broke through last week. They are getting very good prospects. Mechlin is taking pay dirt out of his tunnel on Barker Hill, for carting in the summer. He has a piece of ground that prospects well.

SISKIYOU COUNTY.

Yreka *Union*, March 27th:

CANAL GULCH.—Frank Riley and others have a quartz ledge on Canal Gulch which they are prospecting. The rock, where uncovered, prospects rich. They are sinking a shaft to strike the ledge at some distance. If they find it as good as where it is opened, they will erect a mill. The gold is not visible to the eye, but it is impossible to find a piece but what prospects well when pulverized.

SHASTA RIVER CANAL.—The Big Ditch is now carrying water to its full capacity.

SONOMA COUNTY.

SILVER EXCITEMENT AT PETALUMA.—Considerable excitement is said to exist at Petaluma, caused by the discovery of silver ore in the Sonoma range of mountains, about seven miles from Petaluma. There had been previous discoveries of cinnabar and coal, and last week, silver ore, assaying $10 to the ton, was found in considerable quantities. Hundreds of acres were at once staked off in claims, and the rush for locations is described as being very great.

TRINITY COUNTY.

Journal, March 20th:

CANON CREEK.—Baumgartner & Co. have picked up as much as $100 in one day while ground-sluicing in their claim at Tyson's old place. They will take out $15,000 this year. One week Kellenger & Garwood picked up $500 in $1 and $2 pieces, also, while ground-sluicing. Mathewson & Murphy expect to make $50 per day to the hand, and Adam Berger is believed to have the best claim on the creek. There has been no lack of water.

Same of April 3d:

MINERSVILLE AND VICINITY.—Mr. C. M. Mead's claim has paid well this season, and he has just completed a ditch, of 1,200 in. capacity, conveying water from the East Fork to his diggings at the mouth of Italian Gulch....Mining is being vigorously prosecuted on Little Mule Creek. Several companies are at work....Wheedon, Van Matre & Co. have started in at the lower end of the bar in which the rich prospects were found, and are bringing up a drain ditch that will enable them to work the creek to the best advantage....The Buckeye boys are busy.

RED HILL.—Lorenz & Jacobs cleaned up last week, after a run of three weeks, with three men, the sum of $3,200. There is plenty of such ground, not only at Red Hill, but in other parts of the county. What is needed is more water and men determined to work.

Douglass City correspondence of same: On the west side of Weaver Creek, Hinds, Swift & Dixon are working the old abandoned claim of Flynn & Sudworth, with good results. The gold is light and flaky, and could not be saved by the old process. The boys have their claim rigged up with all the appliances for mining—hydraulic, reservoir and under-current. They saved about one-eighth of their gold in the undercurrent, at the first clean up, yet found that some had passed over the screen and settled in the boxes below.

On Smith's Flat Paulson & Co. made a clean up, expecting little, and were agreeably surprised to find $1,100 in the flume. Smith's Flat has "seen its best days." All the claims but two have passed into the hands of Portuguese, and are pretty well worked out.

There are but two claims running on Union Hill—McWilliams Bros., and our own. The McWilliams boys expect to average $1,000 a month during the mining season.

TUOLUMNE COUNTY.

The sixth trial of the Table Mountain Tunnel case, commenced in 1861, has ended without result, the jury failing to agree. The *Democrat* says: The costs incurred have been enormous, and probably exceed the value of the ground in dispute. In the meantime the tunnel, some 4,500 ft. in length

in Table Mountain, has gone to decay, the timbers have rotted away, and it has caved in many places, ruining it for future use. This case has lasted longer than any other mining suit ever instituted in this county, and its final termination will be hailed with satisfaction by court, counsel and witnesses.

YUBA COUNTY.

Marysville *Appeal*, April 1st:

About to Suspend.—We understand that the owners of the Jefferson mine, at Brown's Valley, have resolved to suspend operations, the mine being considered as worked out. The stopping of the pump has necessitated a larger pump in the Pennsylvania.

Same of 3d:

The Pennsylvania.—Notwithstanding the $2 assessment, the mine has rich rock, and there is every prospect of better success after the introduction of the new 10-inch pump. The mill ran less than a third of last month, and about $2,000 were realized.

A Dividend.—We are told that the Jefferson mine which closed up on the 31st, declared a dividend of $15.

ARIZONA.

Prescott *Miner*, March 20th:

Big Bug.—Mining items are scarce this week. We have reports but from two camps—Big Bug and Lower Lynx Creek. At the first named place, the companies at work in the old Mexican Gulch, have been doing well. We are informed by a man who has worked for one of the companies, and who came to town this week, that on an average the diggings have paid about $8 a day to the man. They are now sluicing at the lower end of the gulch, where they frequently find, on the bedrock, pieces of very rich quartz. A short time ago they found a piece of gold quartz that weighed $12. The heaviest gold and richest pieces of quartz are found in a streak or stratum of blue gravel. The companies estimate that it will take them three years to work out the gulch.

Lynx Creek.—The news from Lynx Creek was furnished us by Capt. Shoupe, and is to the effect that his own claim and the claims of Jackson, Lovejoy & Co., were paying exceedingly well. Jackson & Co. had not cleaned up when he left, but Mr. Lovejoy informed him that the bottoms of the sluices were perfectly yellow with gold. Mr. Shoupe's own claim has paid about $10 per day to the hand. A piece weighing $6 had been found, was brought to town by him and presented to Major Clendenin.

Wickenburg.—From parties who arrived here recently, we learn that Messrs. Reese & Krauso were enlarging their mill-house and placing a new 5-stamp battery alongside the old one. The Vulture Co's 20-stamp mill was working away, and as usual, paying.

Some 25 or 30 Mexicans are working the old placers at Weaver, and a party of Americans are engaged in sinking a shaft on a bar in Antelope Creek.

Sterling.—The latest news from San Francisco regarding the intended operations of the Sterling Mining Co., is to the effect that $100,000 of the capital had been paid up; that Mr. Borger was coming back to take charge of the chlorination department, and that a new general Superintendent would be sent out.

IDAHO.

Silver City *Tidal Wave*, March 30th:

The Baxter boys have finished running their 200-foot level and are again sinking. They propose to commence stoping in three levels in the spring—one at 100, one at 200, and one at 300 feet. The mine maintains its richness and size admirably as they go down.

The Rising Star mine and mill, under Capt. Hall's management, continues to pan out beautifully.

Shep. Osborn, while encamped near Carson Ranch a short time since, discovered a bed of what is pronounced by the blacksmiths very good coal, about 12 miles from here in the foot-hills, bordering Snake River Valley. The deposit is twelve feet thick, and has the appearance of being extensive.

Stepping into Blake & Co's assay office on Thursday evening just as they were finishing up their day's work of melting and assaying, we took note of the figures on four large silver bars, yet warm from having been tried in the furnace and not found wanting, and ascertained the assay value to be $8,529.05, besides one bar that was not stamped, which would raise the amount to nearly $10,000.

MONTANA.

Helena *Herald*, March 8th: The reported discoveries of rich gold bars of Gold Creek, which we published last week, is confirmed by several parties who arrived in this city from that vicinity recently. They report that bar diggings of considerable extent and richness have been found there, which has had the effect to inspire those interested with the greatest confidence.

A correspondent sends us a description of the "Whitlatch Park" mine and its present position, which we condense as follows: It is about four miles from Helena, and is owned by Messrs. Whitlatch and Walker. It includes 320 feet; two inclines, each 230 feet in depth on the lode, a shaft 70 feet deep, and a cross-cut connecting the bottom of the inclines. The vein at the surface is 20 inches thick; at the bottom, 7 feet. About 1,000 tons of ore is out and on the surface. Some 400 tons has been crushed in an imperfect mill, and averaged over $60 to the ton. The "Philadelphia Enterprise" claim, on the same lode, which has a 30-stamp mill, cleared up during 1868 one million one thousand five hundred dollars. The stratum of decomposed rock underlying the "Park" is very rich. Mr. Whitlatch obtained $65 from four pounds of it pulverized in a mortar; there is, however, not more than one ton of this very rich rock to a thousand of the average ore.

NEVADA.

HUMBOLDT.

Register, March 27th:

Another Quartz Mill.—Recent developments on the Sixty-nine ledge are favorable. Arrangements are being made for reduction works of a capacity to crush and amalgamate ten tons a day.

Work on the Seminole is being prosecuted day and night. The present length of the tunnel, from the point where ground was first broken, is almost 340 feet.

The Evening Star.—We learn from Fred. Wright, of Oreana, that work will be commenced immediately on the Evening Star mine.

The Silver Mining Co. are about to increase the capacity of their mill sufficiently to enable them to crush 20 tons of ore daily.

Work has been resumed on the Tallulah ledge, in Dun Glen district.

Winnemucca correspondence, *Gold Hill News:*

Pride of the Mountain.—Four years ago Buck & Kunkle began work. They have shipped 30 tons of ore., and are now hauling to the depot their second shipment of 70 tons. Horn silver is plentifully spattered throughout the ore, and rich, black sulphurets abound. On the same lode, another company have in their incline, down about 60 feet, a fine looking lode, two feet thick, full of excellent ore. Two other companies are just starting in, and we have every prospect of being a busy camp this summer. We don't fool with anybody's mill, but send our ores to Swansea, where we get their full value.

Battle Mountain is still giving out bullion at the rate of $200 per ton. The Little Giant lode don't appear to stop in the original claim, for the extensions are turning out fine ore.

Golconda.—Negus is working away with an average result of $50 per ton. He has a three-foot vein at the present level.

Unionville.—Fall & Co. and the Consolidated Co. are taking out fine ore. The ore worked at the Consolidated Co's mill, report says, works about $48 per ton, and the tailings assay $100. Fall & Co's mill is said to be working out $30 per ton from the same class of ore.

Alpha.—The owners have a shaft down 200 feet, and a lode of mineral 10 and 12 feet thick all the way down. A tunnel is now being run to connect with the bottom of the shaft. This tunnel runs on the lode most of the way, and is designed for a working level. Five feet of the vein will pay $150 per ton. The owners are going to take out this rich strike, and ship it to Europe.

The Grant is an old mine under a new name. This winter they started in, drifting from the bottom of their shaft, and in a short time cut a body of ore that astonished the natives. It is rich. A short time ago one of the owners took a notion to visit his old home, and just to show the "suckers" what kind of stuff grew out in this country, he took a hand-saw and sawed off a chunk of ruby silver. I am told that the owners challenge the State for the production of a specimen equal to one they will bring from the Grant.

The Sheba is again to wake up, after a sleep of over four years. Joe Orgau has leased it, and begins operations immediately.

REESE RIVER.

Austin *Reveille*, March 31st:

Mill to be Opened.—We learned this afternoon from Mr. Curtis, the Superintendent of the company, that the Manhattan mill would be opened to-morrow morning. There is a large supply of stunning ore on hand, and more coming.

Pluto is the name proposed for the new district taken off from Eureka. It is about 75 miles east of Austin. The ore is found in isolated deposits, as in White Pine. Locations may be made by the square, as well as by linear measurement on the vein. Assays of rock show from $100 to $500 per ton.

Belmont *Champion*, March 27th:

We learn that the mill of the Silver Peak and Red Mountain Co. is working steadily, with good results. Laborers are very scarce in the district, but the company have 2,000 tons of rich ore on their dumps, and the mill will not be allowed to stop.

The rich ledges of Reveille are beginning to attract the attention of prospectors. Six weeks ago there were not a dozen men in the camp, while at the present time there are from 80 to 100. N. Brobant, an old resident of the district, brought into Belmont, last week, a small lot of bullion, worth $487, the result of six days' run of eight hours a day, of a small arastra, driven by horse power, on ore from the Green Gage and Pearl ledges. The ore from these ledges pays, by the wet process, $200 per ton. Barnes & Co., Capt. Baker & Co., Hammond & Co., George Nichols, H. L. Hawes and Babb & Co. are busily at work taking out very rich ore.

At the Enterprise mine, there is now a considerable amount of ore upon the dumps, which will work not less than $300 per ton. There are but 600 feet in this claim and Alexander McKenzie owns a controlling interest.

Sale of the Arizona Mine.—We are informed that Len Martin has sold his Arizona mine, in this district, to James Stewart and Alexander Kennedy. The gentlemen who have purchased this mine went to White Pine some months since, located ground, and have sold a portion of their claims, bought the above mine, and will immediately commence the development of it.

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

Territorial Enterprise, March 3d:

Flowery.—There will be much prospecting in Flowery and in the range of the Occidental mine northward this spring. Miners will look for chimneys along the croppings; not, as in 1860, run tunnels one to two thousand feet to begin with.

C. Wiegand, assayer, writes that he suspects the rumor of the Empire City strike, (east of Carson,) is unfounded; and that the discoverer was tricked by some practical joker who thrust a piece of gold ore into the forge where he did the burning.

Same of March 31st:

Savage.—The body of ore struck in the North Potosi chimney is one of the finest ever found in the mine.

Yellow Jacket.—A fine body of ore was struck day before yesterday in this mine, on the 800-foot level.

Same of April 1st:

We were yesterday shown some beautiful specimens of copper, from the Wheeler mine, Pine Grove. The specimens contain a large per cent. of gold. Besides the copper specimens, we were shown from the same mine a piece of quartz literally filled with free gold.

Cole.—The company are having a lot of ore reduced at the Summit mill. It is being worked through one of S. Howland's patent grinders.

Sacramento Co.—The Sacramento Co. are again at work. Their ore is being crushed at the Summit mill.

April 2d:

Chollar-Potosi.—The drift at the 1,240-foot level has penetrated about 170 feet from the incline. The rock is not quite so hard.

Same of 3d:

Sierra Nevada.—The Sierra Nevada Co. yesterday cleaned up 80 pounds of retorted gold bullion, worth about $15,000. This yield was the result of a run of 14½ days. The yield for the present month has been over $20,000. The works will be shut down for some four or five days in order to mend the boiler.

Ophir.—The Ophir Co. are making good progress with their drift to the westward from the bottom of their shaft. The rock encountered is becoming softer and more moist.

Yellow Jacket.—The body of ore struck on the 800-foot level is even more extensive than was at first expected, and assays from $80 to $900 per ton.

Gould and Curry.—The shaft was freed from water last evening, when sinking was resumed.

Same of 4th:

The American Mine, the next south of the Overman, will on Monday or Tuesday, begin taking out ore for milling.

Hale & Norcross.—The shaft of the old works has been retimbered to the 300-foot level, and this week they will begin the work of taking out ore on this level. At present about 34 tons of ore per day, that will pay $30 per ton, are being extracted on the 175-foot level.

Occidental.—A Virginia telegram of April 5th, says: This morning the Occidental struck very rich ore in the bottom of the winze, 140 feet below the floor of the upper tunnel, and 35 feet below the water level.

NEW MEXICO.

The White Pine *News* of March 20th, says: "It is said a silver mine has been discovered in San Andres cañon, near La Mesilla, New Mexico, with a ledge 50 feet wide, that can be traced for miles, and that pays $1,700 per ton, with very poor working. We will believe it when the mine furnishes as much silver as does the Eberhardt."

OREGON.

Dalles *Mountaineer*, March 19th: Letter from Cañon City: During the late fine weather prospecting has been going on here briskly. Captain Borland has struck a good prospect a mile above town in the bank of Cañon Creek. He gets one dollar to the pan and has not found bed-rock. Berry Bros. & Co. have struck a good prospect on the upper end of the Penfield Mill Flat Claims.

John Campbell's bed-rock flume is nearly completed. Campbell's claims are thought to be the best on the Creek, and in a short time he will be taking out plenty of money.

The Prairie Diggings' quartz mill is being pushed ahead rapidly to completion.

WASHINGTON.

A correspondent of the S. F. *Bulletin*, March 31st: For several years gold has been known to exist in the Black Hills, some twelve miles west of Olympia, but it has been believed not in sufficient quantities to pay for working. For some two months past an old and experienced placer miner, known by the name of "Texas," has been prospecting the Hills, and he has recently demonstrated to a party of gentlemen who visited his camp that from $3 to $5 per day can be made by an ordinarily industrious man with either the sluice or cradle. The gold region is extensive, and several thousand men can find employment. "Texas" reports finding gold-bearing quartz, but its richness has not yet been tested.

WYOMING.

New Gold Discoveries.—A rumor was current in Cheyenne on the 15th ult., that rich gold discoveries had been made on Green River, about 200 miles below the railroad crossing of that stream. It is also stated that the remains of men and horses, apparently a party of prospectors, were found in the locality of the reputed gold fields.

Steam Jets to Clear a Vessel from Water.—A correspondent of the London *Times* proposes to lift water from the hold of a vessel by means of steam jets, supplied from the boiler. The idea is a good one; but is not new, as the *Times* might readily have learned by consulting the back numbers of this paper, in the columns of which it was fully described some two years ago, as "The American Steam Syphon Pump." Such an arrangement would be easily and simply available in case of the shipping of a heavy sea, or when any other extraordinary surplus of water was to be got rid of. In such case, the engine might be for the time disabled; and pumps to be worked by it would of course be useless. The jet would be fully capable of accomplishing the work at once, being always ready for work as long as the fires are kept up.

Gold Nuggets.—Some very large nuggets of gold have recently been found in Australia. At Gympie, in Queensland, a 700-ounce nugget was taken out of the Golden Bar claim. At Berlin, near Inglewood, one man obtained, in a couple of days, 480 ounces of gold, comprising one nugget of 286 ounces, and a number of smaller ones. At the same field two nuggets, weighing respectively 225 ounces and 175 ounces, have also been discovered.

Seventeen thousand men and sixty dredging machines do the work on the Suez Canal.

The reports of the discovery of valuable diamonds at Cape Good Hope are confirmed.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.
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MR. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:

Saturday Morning, April 10, 1869.

Notices to Correspondents.

P. S., Antioch.—The word Pampas means the same as the Spanish word *llanos*, as applied to a plain or flat country. The the word Pampas is derived from an Indian, which to the Quichue language possesses exactly the same meaning.

AGRICOLA, Visalia.—From the days of Cato the Censor to the present time, in European countries, those lands have ranked highest in value that were under viniculture, and second on the list stood ozier beds. No civilized State in the world possesses more facilities and inducements for the cultivation of both than California.

POCOTILLO.—Why do you write anonymously? If the newly enacted Nevada law legalizing conveyances by minors,—which you say was "specially passed to fit McCauley's case,"—can be shown to be *ex post facto*, the chances are that the "honest minor" may gain his case.

COMMUNICATIONS on a "New Method of Treating Sulpburet Ores," by M. R. Jeffards of Chicago, (a Moutana miner), and on the "Amalgamation of Silver ores without Roasting," by Charles H. Aaron, and some Pacific Railroad notes from W. H. M., will receive attention in our next issue.

CADWALADER'S MAP OF WHITE PINE RANGE AND DISTRICT.—Bancroft & Co. have just issued their long promised map of the White Pine Range and of White Pine District; the former showing the connection of the district with the railroad at Elko, in a strip of land seventy miles wide and extending about seventy-five miles south of White Pine, as far as Grant District; the latter showing about a third of White Pine District proper, on a scale of four inches to the mile. This scale has enabled the compiler to get in an immense number of details, embracing three or four hundred of the principal mines—out of the three thousand, which include an unknown proportion more properly designated as "wild-cat." The topography of this map is not so good, or easily comprehended, as that of some of the previously issued maps, but the quantity of information conveyed more than makes up for its pictorial deficiency. All mines, mills, roads, brickyards, reservoirs, surveys, etc., are represented. Gen. Cadwalader, the compiler, is the father of the Pacific Railroad engineer of the same name. The map seems to have been drawn on transfer paper, and lithographed from that.

Accompanying the map is a guide of thirty-one pages, in the getting up of which Dr. DeGroot's able assistance is made manifest. The price is $1.50.

The Copper Trade.

The great depreciation in the value of copper, for the last five years, has nearly ruined the copper mining interests of Lake Superior, and put a complete stop to that branch of business in California. The large amount of capital invested in the former locality, however, has been sufficient to warrant the initiation of active efforts to bring about such legislation as shall so enhance the value of copper as to make the working of those mines once more profitable. These efforts have finally culminated in success, and we have now a Copper Bill, which has become a law, over the President's veto, by which some of the more productive mines of Lake Superior can be worked to a profit, but which does not afford sufficient protection to enable the reopening of the less productive ones, or any of the mines in this State. The Eastern papers characterize the Bill as a swindle, from the fact that its provisions will enable only three or four of the best of the mines, as stated above, to resume operations, the produce of which will furnish but a mere moiety of the copper required by our commercial interests; while the great bulk of that metal must still be imported at rates which cannot fail to prove a serious detriment to the ship-building interest of the coast, which is already prostrated by over-taxation and other drawbacks, growing out of the late war. If the above statement is correct, which appears to be the case, the people at large are to be severely taxed for the benefit of a few greedy stock-speculators in Boston and at Lake Superior. California will derive no benefit whatever, from the bill, either in the way of plunder or legitimate gain, although her representatives were a unit in its favor—so voting, no doubt without a proper understanding of its effects.

It is perhaps to be regretted that legislative action in this direction should have been taken at this time, as there is good reason for believing that the natural course of trade itself would soon have set this matter right. The great increase in the production of copper, for the last few years, which has led to a corresponding reduction in price, has been mainly due to a large supply from rich superficial ores in Chili—which country has furnished more than half the world's supply for the eight years past. This supply being chiefly from superficial ores, is already beginning to fall off, and in all probability will still farther decrease. The production in England has also been constantly decreasing for the last ten years, while that of Russia has now nearly ceased, and most other sources of supply, outside of the United States, are either falling off or quite stationary, from an exhaustion or depreciation in the yield of the mines.

Many writers have attributed the late depression in the price of copper to a growing decrease in its commercial use, and point with much confidence to the lessened demand for copper sheathing for vessels, for casting bronze cannon, and for copper coinage. Although these statements are correct, other things, which should be taken into account, are forgotten. Though fewer ships are sheathed with copper than formerly, there is nevertheless, on the whole, an increased demand for copper in ship-building, which is used otherwise about ships, especially steamers, the construction of which requires much more copper for a given tonnage than sailing vessels. There are but few bronze cannon cast now; but the demand for that manufacture has for years been almost exclusively supplied by the remelting of old cannon, so that that business has drawn nothing, comparatively, from the world's annual production. An important and quite new demand for copper has sprung up within a short time, in the shape of cartridge cases for breech-loading guns. This demand now averages many thousand tons annually. Copper used for this purpose never finds its way back again. There is also a growing increase in the consumption of copper for railway purposes,—for locomotive boilers, tubes, etc. This demand, of itself, more than doubles the falling off in any other department of manufacture. Russia, alone, it is estimated, requires 2,000 tons of copper annually for this business—an important item when the total world's production only reaches about 90,000 tons. There are many other directions in which new and increased demands for copper are springing up.

Taking all these things into consideration, there is no bad prospect ahead for the copper business. During the last few years, since copper has been so rapidly depreciating, everybody connected with its manufacture or consumption has been aiding to keep the price down, by a hand-to-mouth way of doing business, fearing to keep any unnecessary amount of stock on hand lest it should depreciate in price. The stock of copper in the world is now very small, and must henceforth be gradually increased. Consumers and dealers are already gaining confidence, and speculators are taking an increased interest in this long-neglected article. The time is not far distant, when, without oppressive legislation, the copper business, even in California, will again become profitable. The large supplies of first-class ores, from this State, which reached Europe just previous to the late unfortunate crisis in the business, deservedly attracted the attention of operators there, and led to the remark, in one of their circulars, by the Messrs. Vivians, the largest copper smelters in Europe, that "California, next to Chili, seems deservedly to attract most attention," of any copper-producing country in the world.

The Nevada State Mineralogist's Report.

At length we have received a copy of this document, by the hands of the Rev. A. F. White, the State Mineralogist himself. So many of our Nevada exchanges have been finding fault with it that one would be led to believe Mr. White utterly incompetent. We do not find sufficient ground for all of these left-handed notices in the Report—which is an octavo pamphlet of ninety-six pages filled to the end with facts pertinent to mining developments, and every paragraph is original. Had Mr. White ventured unwarrantably into theories concerning the geological or mineral formations observed by him, he might have made his report more interesting, and laid himself open to more real occasion for attack. In adopting Richthofen's lithological terms, as descriptive of the volcanic rocks met with, he has embodied unmeaning words to the majority, but enabled others to comprehend with some degree of definiteness his observations of the distribution of eruptive matter in Nevada. If, instead of speaking simply of ores he had been careful to note a little more fully the exact minerals met with at different depths, and under varying circumstances, the report would have been more valuable both to millmen and miners. Mr. White is a self-made man, and of even less pretension than his merits warrant.

CALIFORNIA TYPE FOUNDRY.—We have received the second sheet of "faces" manufactured at this establishment, and which has just been issued in a very neat pamphlet form from the press of Wade & Co., 411 Clay street. Messrs. Faulkner & Son, Agents of this Company, say, in their preface, that they have cast over 80,000 pounds of body type since their establishment in January, 1867. Their type is now in use at nearly all the newspaper offices in this city. A sample of a new "California Italic" is given, which presents a beautiful appearance, and is particularly adapted to blanks, circulars, etc. We are pleased to acknowledge this new evidence of California progress.

Permanency of Interests in the Mountain Counties.

Following closely on the heels of the late Land Office decisions adopting the policy of granting fee simple titles to placer deposits, we find there is leavening and spreading in the semi-agricultural mining counties a strong movement showing itself with the flowers and green growths of spring, in favor of permanent and settled titles to such land as is occupied and considered most valuable at present for agricultural purposes. The signification of this movement is that there are now many people living in those regions who are content to remain there; that *homes* have been made which are beginning to be worthy of that permanent name in the foot-hills; that "pulling up stakes" is soon to cease being the rule and the curse of the most delightful and the most prolific region, in material resources, of the Pacific coast. Possessory titles have been the law;—good enough for temporary purposes, but not satisfying. Their operations in mining is perhaps all that would commonly be desired, but in regard to permanent developments above ground it has evidently been bad, and it is time that there should be some change. The destruction of all the timber of the foot-hills is perhaps the greatest injury that it has done, a man not being hindered from abandoning his location the moment that the timber is exhausted, and making a fresh one to suit the times.

If the status of land titles is the cause of our otherwise unaccountably neglected lands in the foot-hills, what legislation shall Congress be called upon to enact? In the first place it was, strictly speaking, perhaps straining a point to construe placer deposits as "veins." That point should be more definitely settled; there being no objection to the permanent sale of mineral lands urged by any of our exchanges, except the *Calaveras Chronicle*, that we have seen.

It is suggested that petitions should be circulated in the mining counties asking Congress to pass a law throwing all public lands in the mountains open for preëmption and sale, irrespective of the question of their agricultural or mineral characters—which is the bar in all present proceedings. It has been found, in the recent case before the Register and Receiver at Sacramento, calling for testimony in regard to the classification of some 30,000 acres of unclassified land southeast of Auburn, that every agriculturist is placed in the unfavorable position of sustaining an undecidable lawsuit before obtaining his title, when in point of fact there is no occasion for conflict with any body, were the law only left in an open enough shape to suit the facts.

Possessory titles to mines and lands are conceded to be equally good at present. But the numerous advantages that would accrue from permanent titles, seem to overbalance all objections that can be stated to any legislation in the premises, the object of which is to facilitate permanent settlement and developments of every other kind in the foothills.

SPECIMENS FROM THE GLENWOOD MINE, El Dorado Co., have been shown to us by Mr. S. P. Leeds, which, besides being unusually rich in partially very perfectly crystallized gold, show the accompanying quartz in that peculiar porous condition which indicates that there was another mineral of a soluble character deposited in the vein at the same time with its present contents, but which was afterwards carried farther by similar agencies to those which filled the vein. Pyrites, gypsum, calcspar, etc., behave in that manner, under the proper conditions. The Glenwood vein is 14 feet wide, has a fluccan on each side, dips to the west, and is part of a quartz formation of similar character extending 7 miles. The ore assays $13.60, on an average, throughout, and being 930 to 940 fine. We are indebted to Mr. W. Vale, the secretary and treasurer, for a copy of a report of this mine, which furnishes precisely such facts and figures as mining managers ought always to circulate freely amongst those who are interested, or to become interested, if the intention is to operate on an intelligible basis.

This Year's Mechanics' Institute Fair.

"Forty-nine and Sixty-nine," says Old Block, are California's most significant dates historically. In connection with the facts, (already noticed by us,) that the Mechanics' Institute of this city is in a position to make a success of another industrial exhibition—the greatest indeed that has yet taken place under the auspices of that institution, unless unforeseen obstacles should operate adversely—and that such an exhibition has been fully determined upon, additional circulars having just been issued giving due notice to local manufacturers, we take pleasure in being able to state that steps are also being taken to connect with it the prestige of the great railroad opening to which not only California, but the Atlantic States and the commercial circles of the entire world, are looking forward with interest. A meeting is to be held at the Mechanics' Institute building this (Saturday) evening, for the purpose of devising a plan and making suitable arrangements; at which some little "spouting" may take place perhaps, and a good working committee will be appointed.

The Mechanics' Instituto Fair of 1869 will be the San Francisco end of the great celebration; and that which is destined to come to pass will surely not prove discreditable to our State and coast. September 14th is the day fixed for the opening of the Exhibition. By that time the continental road will be in good and safe running order; and it is also the time fixed by the Odd Fellows of the United States for their grand Annual Conventiou, which is to take place for 1869 in this city. The East will come on a visit to the West, and there will be such a demonstration at once of national unity, and of fraternity, as could never have taken place without a War, and without the completion of a Continental Railroad.

Odd Fellowship signalizes its own high rank amongst the living forces of the times by thus recognizing and participating actively in the spirit of Sixty-nine.

A NEW MARINE PAINT.—A company has recently been formed in this city for the manufacture and sale of a new paint, known as the "California Metallic Marine Paint." This composition is a California inventiou, the patent for which was obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. The composition is one of a compound chemical character, quite different from anything else in use; and one which has already been subjected to a thorough practical test. When applied to vessels or piles, it is said to form an efficint preventive agaiust the ravages of the *teredo*, while its use upon either wood, iron or copper, upon vessel's bottoms, effectually prevents their "fouling," and greatly diminishes the wear and tear upon the same. It is also valuablo as a preservative for wooden structures of all kinds, for hridges, railroad timbers, etc. The names of the partics who represent the company as trustees and officers, afford a guarantee that the article which they offer the publlc is something of value. See advertisement in anothor column.

THE "GO-AHEAD GOLD AND SILVER MINING COMPANY," is the name of a company of onergetic miners just organized, with a capital stock of $50,000, for the purpose of prospecting and developing certain placer mines in Mountain Spring District, Sierra Couuty, on the road leading from La Porte to Gibsonville. There is a gravel ridge six or eight miles in length, between those places, which is believed, for sufficiontly good reasons, to be very rich, hut the paying deposits are deep in, and require a systematic undertaking of the work.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

RETURNED.—Dr J. H. Paino, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 2tv17-4m

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O. M. TAYLOR, who acted as agent a brief time for this paper in Washoe, is requested to call at or address this office without fail.

PHOTOGRAPHY.—FOR CABINET PHOTOGRAPHS, or Enamoled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
10v18 6m B. F. HOWLAND.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block San Francisco. 6v18-3m

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PAIN KILLER!

The Great Family Medicine of the Age. Taken internally, it cures
Dysentery, Cholera, Diarrhœa,
Cramp, and Pain in the Stomach,
Bowel Complaints, Painters' Colic,
Liver Complaint; Dyspepsia and Indigestion,
Sore Throat, Sudden Colds,
Coughs, etc., etc.
Used externally, it cures
Boils, Felons, Cuts,
Bruises, Burns, Scalds,
Old Sores, Sprains, Toothache,
Pain in the Face, Neuralgia,
Rheumatism, Frosted Feet, etc., etc., etc.

The Pain Killer is sold by all Druggists and dealers in Family Medicines.
REDINGTON & CO. and HOSTETTER & SMITH, San Francisco, Cal., General Wholesale Agents. ap1m

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LEXINGTON, April 3, 1869.

DEAR SIRS:—The Letters Patent have just come to hand For the prompt and business-like manner with which you have put the matter through, please accept my thanks. GEO. W. TEASDALE.
To DEWEY & Co., Publishers M. & S. Press.

Maurice Dore & Co.,

AUCTIONEERS.

THURSDAY.

THURSDAY..... .....MAY 6, 1869,

At 12 o'clock, at Salesroom,

No. 827 MONTGOMERY STREET,

Special Credit Sale

— OF —

Montgomery Street Property,

By order of the Trustees of the Montgomery Street Real Estate Company.

We will sell on the above dato

1,000 FEET FRONTAGE

ON MONTGOMERY,

BETWEEM MARKET AND HOWARO STREETS,

Which will embrace **13** FINE CORNERS, as follows:

One on Montgomery and Market,
Three on Montgomery and Jessie,
Three on Montgomery and Mission,
One on Montgomery and Minna,
Four on Montgomery and Natoma, and
One on Montgomery and Howard Streets.

Montgomery street, between Market and Howard, is **70** feet in width, and will be sewered, paved with Stow pavement, curbed and sidewalked.

TERMS—One-fourth cash; one-fourth in one year; one-fourth in two years; one-fourth in three years—deferred payments to bear interest at the rate of ten per cent. per annum, payable monthly, and be secured by mortgage on the property.

Diagram Catalogues will be ready in a few days, and can be had on application at our office.

MAURICE DORE & CO.,
15v18 1m **Auctioneers.**

Sheffield Scientific School

Of Yale College, New Haven, Conn.

This department of Yale College, instituted in 1849, and endowed with the National Land Grant in 1866, furnishes advanced instruction in the various branches of Mathematical, Physical, and Natural Science.

The School is under the direction of the President of the College, a Board of thirteen Professors in different special ties, and six assistant instructors.

Regular courses of study, leading to the degree of Bachelor of Philosophy, conferred by Yale College, are arranged as follows: 1—CHEMISTRY AND MINERALOGY. 2—CIVIL ENGINEERING 3—MECHANICAL ENGINEERING. 4—MINING ENGINEERING AND METALLURGY. 5—AGRICULTURE. 6—NATURAL HISTORY AND GEOLOGY, and 7—SELECT COURSE.

Advanced students are also admitted to optional courses, and if already College graduates, are received as candidates for the degree of Doctor of Philosophy.

Tuition, $125 per year of forty weeks.

The Libraries, Museums, Laboratories and Apparatus, accessible to students, are varied and extensive.

For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

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ONE THOUSAND SHARES

— OF THE —

UNASSESSABLE STOCK

— OF THE —

Nantucket Mining Company

Are offered for sale at ONE DOLLAR PER SHARE, for the purpose of raising a fund to aid in the development of the mine. The mine is located on TREASURE HILL, about half a mile west of Treasure City, adjoining the "Salt Point on the east. No other issue of this stock will be offered at less than $2.50 per share, the object being to raise a small fund for the immediate prosecution of the work. The Trustees, in offering this stock, confidently believe it to be ONE OF THE BEST INVESTMENTS in the market. Subscription Books now open at the office of the Company, No. 619 Montgomery street. By order of the Board of Trustees.

W. H. BROWN, President.
15v13-1m H. B. CONGDON, Secretary.

ILLINOIS
SILVER MINING COMPANY

White Pine District.

Trustees:

JAS. H. CUTTER, B. H. FREEMAN,
E. H. SHAW, JAS. R. GARNISS,
DAVID BUSH.

The Company's Mine adjoins the celebrated "Silver Glance," and is in close proximity to the "Argyle," and other prominent mines of the District.

From developements already made, the Trustees feel justified in saying to their friends that this is one of the best opportunities ever offered for investment in this State.

For the purpose of further developing the mine, the Company has set aside a limited amount of stock, to be sold as a working capital, of which they now offer 1000 shares, at the nominal price of $2 50 per share, unassessable—the entire proceeds of which will be devoted to developing the mine.

The books of the Company are now open for subscription at the office of the Company, No. 432 Montgomery street, Boom No. 1, first floor. By order.

JAS. H. CUTTER, President.
G. W. STEWART, Secretary.
15v18-1m

CALIFORNIA

Marine Metallic Paint.

This Composition, the result of scientific and chemical research, after having been thoroughly tested for the past twelve months, is now offered for sale by the "California Marine Paint Co" incorporated March 25, 1869. The experiments to which it has been submitted, have proved that it is one of the most valuable discoveries of this wonderful age of invention It has been extensively used in painting the bottoms of all kinds of sailing vessels, wood, iron and copper, and with invariable success. Wooden bottoms, piles, etc., are thoroughly protected from the destruction of the *teredo navalis*, or sea worm; and iron vessels effectually preserved from the adhesion of barnacles, grass and all descriptions of zoophytes, no injury whatever resulting to the plates, as frequently occurs from the use of copper, and other pernicious paints; but, on the contrary, its known properties will preserve them.

By the use of this Paint, coppering vessels is rendered unnecessary; but where a vessel has been coppered it will not only keep it from fouling, but preserve the copper from the ordinary wear and tear, amounting to 10 per cent. per annum, and render it almost indestructible.

It is also invaluable for the preservation of all wooden structures, especially railroad timbers, bridges, floor beams in houses, telegraph posts, and is a certain preventive against the action of the white ant and comagen of Mexico, China, and India.

The company are now prepared to supply all orders, and enter into contracts for the application of this Paint.

Orders and communications in regard to terms, addressed to Capt. R. H. Waterman, President; James Pollock, Superintendent Dry Dock; or L. L. Bullock, Tide Land Commissioner, will receive prompt attention.

R. H. WATERMAN, President of Company.
LLOYD TEVIS, JAMES POLLOCK, L. L. BULLOCK, SCOTT TIOBALL, THOS. A. TALBERT, } Trustees.
JOHN S. ROLLS, Secretary.
San Francisco, March 29, 1869. 15v18-1m

CARLOS O'DONNELL'S

California Cordial Tonic,

—OR—

Wild Cherry Bitters.

TRADE C. O. D. MARK.

This elegant preparation is acknowledged by all who have used it to be the most efficient remedy for every disease of the

STOMACH AND BOWELS,

Yet introduced to the notice of the public Immediately on taking a dose of it, the patient will find a genial glow pervading his entire system, and its steady use for a short time will be followed by a healthy appetite and a good digestion, even in the case of the most confirmed dyspeptic.

To all who are suffering from

INDIGESTION,
DYSPEPSIA,
DYSENTERY,
DIARRHŒA,
NERVOUS AFFECTIONS,

Or any of the manifold troubles caused by a diseased action of the stomach, this remedy is confidently recommended as a safe and certain cure.

N. B. JACOBS & CO., Sole Agents,
15v18-3m **423 Front street, San Francisco.**

GILES H. GRAY. JAMES M. HAVEN.

GRAY & HAVEN,

ATTORNEYS AND COUNSELORS AT LAW,

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27v16 SAN FRANCISCO.

To White Pine Owners and Others.

Abstracts of Titles to Mining Claims, Town Lots and Lands furnished. Mines examined and reported on by a competent person now residing in Treasure City. Mining Claims, Town Lots, etc., bought and sold on commission. For information apply to BIDLEMAN & CO., 605 Montgomery street. 15v18-1m

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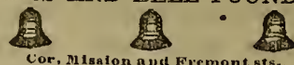
City
BRASS AND BELL FOUNDER



Cor. Mission and Fremont sts.,
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Manufacturer of Brass, Zinc, and Anti-Friction or

Babbet Metal Castings;

CHURCH AND STEAMBOAT

BELLS,

TAVERN AND HAND BELLS AND GONGS,

FIRE ENGINES, FORCE AND LIFT PUMPS,

Steam, Liquor, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles,

HYDRAULIC PIPES AND NOZZELS

For Mining purposes, Iron Steam Pipe furnished with Fittings, &c., Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."

☞ Highest Market price paid for OLD BELLS, COPPER AND BRASS. ☜ 6tf.

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The Patent Plumbago Crucible Co.,

Manufacturers of all kinds of

Melting Pots, Portable Furnaces,

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THE MORGAN PATENT CRUCIBLES have uniform quality, never crack, withstand the greatest heat without danger; heats more rapidly than any other; change of temperature has no effect on them; stand on the average forty to fifty pourings.

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A. S. HALLIDIE & CO.,
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Rolling Mill Company,

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Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY Post Office, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron. 9v14-3m9p

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Saw Smithing and Repairing
ESTABLISHMENT.

Nos. 17 and 19 Fremont St., near Market,
MANUFACTURER OF

SPAULDING'S

Patent Tooth Circular Saws.

They have proved themselves to be the most durable and economical Saws in the World.

EACH SAW IS WARRANTED IN EVERY RESPECT.

Particular attention paid to construction of

Portable & Stationary Saw Mills.

MILLS FURNISHED AT SHORT NOTICE,
At the lowest Market Prices.

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Southeast corner Sansome and Washington streets,

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Steel Engravings produced by an improved Process at one third the usual rates. Portraits, Country Seats, Illustrated Circulars, Reproductions of Engravings, Designs, etc. JNO. VINCENT HIGGINS, Sole Agent.
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Plates, Electro-Plated with Fine Silver; also Instructions in Gold and Silver Plating, on hard and soft metals. EUREKA PLATING WORKS, Terms moderate. 126 Kearny street, between Post and Sutter sts. 4v18 3m

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PALMER, KNOX & CO.,

Golden State Iron Works,

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MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v1day-tf

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Pacific Iron Works.

First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hausbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.
San Francisco, May 1, 1868. 18v16tf

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Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,
18v13-1y One block north of Couch's Wharf.

Globe Iron Works,

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KEEP & BARGION,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.
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CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Ladder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. GALLAGHER. J. H. WEED V. KINGWELL.
9v13-1y

FOUNDRY FACINGS.

BENJAMIN ELLIOT,

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Manufactures Foundry Facings constantly, from choice coals. Bituminous, packed in tight sacks. Anthracite and Charcoal ground together of separate, packed in whole or half barrels. Black Lead, Coke and Soapstone ground to order. Foundrymen located far from choice material, can rely on having superior Facings forwarded to order.
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Miners' Foundry

—AND—

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Nos. 245 to 255 First Street,
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HOWLAND, ANGELL & CO.,

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Manufacturers of Machinery for

QUARTZ MILLS. FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS
OIL WELL TOOLS, ROCK BREAKERS,

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Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE,

The most compact, simple in construction, and durable, of any Engine in use.

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HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular Boilers, with plain circular or spiral corrugations. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, height of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care.

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR.

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,
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THOMPSON BROTHERS,

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129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,
of every description, manufactured 24v16qr

JAMES MACKEN,

COPPERSMITH,

226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.
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G. T. PRACY.

MACHINE WORKS,

NOS. 109 and 111 MISSION STREET,
Between Main and Spear.

New and second-hand

Engines and Boilers,

FOR SALE.

Also, one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

PRACY'S

New and Improved

STEAM ENGINE

REGULATORS,

The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S

Shingle Machines

on hand.

Particular attention paid to Repairing.

☞ All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

THE RISDON

Iron and Locomotive Works.

Incorporated, April 30, 1868 Capital, $1,000,000.
Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch.

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EFFECT OF GAS UPON FURNITURE, &c.—During the recent hearing of the gas question before the New York Board of Health, fully reported in the *Gaslight Journal*, Prof. Silliman, who was called to give his testimony, as an expert, read, in the course of it, the following from a recent article by Dr. Letheby:

"About 15 or 20 years ago, when I began to inquire into this matter, I was struck with a circumstance which is now, as it was then, very remarkable—namely, that wherever gas is burnt continuously, and in large quantity, it causes a rapid destruction of textile fabrics, with a very acid condition of them. This is notably so in our public libraries, and in warehouses and shops. I obtained so many striking proof of this, especially from the libraries of the Athenæum Club House, the London Institution, the College of Surgeons, and elsewhere, that I made them the subject of a special report to the authorities in 1854, and here you will see the specimens of covers of books which were furnished to me at that time. If you apply a piece of the leather to your tongue, you will taste its acidity, and if it be treated with water or spirit of wine and tested with a solution of baryta, it will be found that the acid is sulphuric acid. These effects were observed many years ago, in the library of the Athenæum Club House, and they were growing to be so serious, that the managers requested a commission of chemists, including Doctor Prout, Mr. Aiken and others to inquire into it, and I have before me a copy of their report on the subject. It is to the effect that the mischief is clearly due to the presence of sulphuric acid, which had come from the burning gas; and they state that the mischief will continue as long as gas is used in the library without proper ventilation. Mr. Faraday therenpon designed the system of ventilation which is still used in the library. As to the effects of the products of burning gas on shop-goods, they are notorious, for such goods are regularly disposed of as damaged or gassy things. It has been remarked, too, that plants are quickly killed by the products of burning gas, for they are peculiarly susceptible of injury from the presence of sulphurous acid in the air; according to Drs. Christison and Farmer, as little as one part in 10,000 of air will kill plants in less than 24 hours. And you cannot use gas in a conservatory, either for heating or for illuminating purposes, unless the products of combustion are entirely removed. Dr. Christison has written to me very strongly on this subject; and he attributed the absence of flowers and plants from the rooms of Edinburgh to the circumstance that gas is universally used in them. Advancing a step further in my inquiries, I ascertained that the water produced by burning gas, collect it how you will, is always acid, and will rot leather, paper, cotton, and linen. Here are specimens of such tissues, which have been dipped in the condensed liquid products of gas combustion, and you will observe that they are as rotten as tinder."

CANALS AND RAILWAYS.—The Erie Canal, originally built for vessels of sixty tons, has just been enlarged for those of 250 tons, and its increasing traffic already demands an enlargement for vessels of 1,000 tons. Of the traffic of the great West it now carries more than all of the great trunk lines of railway between the St. Lawrence and the Potomac. One canal boat carries more tonnage than a freight train, and the Erie Canal brings daily to tide-water more than five times as much tonnage as the New York Central. Its tonnage exceeds that of all the foreign commerce of this city.—*Hon. W. J. McAlpine.*

MINING TITLES.—The Nevada *Gazette*, in an article on obtaining title to mineral lands, says that miners should have a full and complete title to their mineral locations. It very properly suggests that there should be a land office exclusively for that mineral district, and that miners should not be compelled to go to Marysville or Sacramento, into purely agricultural districts, and put to great expense in proving up their titles and fighting their way through the tortuous intricacies of the law. All that the miners demand is that they be put upon an equal footing with ranch men. As the law now stands, the burden of proof is entirely against the miners, and it takes four times as long a time, and infinitely more trouble and expense for them to obtain a title.

A PORTLAND mechanic has made a fine cambric needle which can be unscrewed, and which contains, in a hollow within, another smaller needle.

GEOLOGICAL SURVEY OF OHIO.—The Cleveland *Herald* says: "A number of years since a partial geological survey of the State was made. A mistaken economy on the part of the State terminated the work when but a small part had been completed, but that which had been done has proved an incalculable benefit in revealing a portion of the mineral wealth of the State, and enabling mining operations to be carried on intelligently. Every year has shown the folly of the legislature in stopping the appropriations before the survey was completed; and the feeling in favor of the resumption of the work has been yearly growing stronger. The increasing demand for coal, the tendency to seek out new sources of supply, and the reports from time to time of mineral discoveries in various parts of the State, combine to render desirable a complete survey that shall map out the geological structure of the State and enable projectors of mining enterprise to work intelligently and not sink pits at hap-hazard, or with no better guide than a 'divining rod,' or the revelations of a spiritualistic medium. Mr. Lee, of Delaware county, will introduce into the House of Representatives a bill to provide for a thorough geological survey of the State."

This is encouraging. As one of the "signs of the times," we welcome it. There is hope that other states may begin to suspect that there is a money value in a scientific survey of their resources. The feeblest glimmering of such a notion will do more towards bringing about such a survey, than a thousand eloquent appeals to the love of science as science.

IMPORTANT TO RAILROAD TRAVELERS.—The following "rules of the road" are based upon legal decisions: The courts have decided that applicants for tickets on railroad cars can be ejected if they do not offer the exact amount of their fares. Conductors are not bound to make change. All railroad tickets are good until used, conditions "good for this day only," or otherwise limiting time of genuineness, are of no account. Standing on the platform and otherwise violating the rules of the company renders a person liable to be put off the train. No one has a right to monopolize more seats than he pays for; any article left in the seat while the owner is temporarily absent, entitles him to his seat on his return.

PRESIDENT DWIGHT, of Yale College, is stated to have been the first American to cultivate the strawberry.

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25v17-1y

Bromide Tunnel Company,
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NOTICE.
The above Company having been incorporated under the laws of the State of California, has opened a Subscription Book for subscribers to its Capital Stock, at
No. 10 Stevenson Building, San Francisco,
Where full particulars relative to the working of the Company's property can be ascertained. 13v18-1m

To White Pine Prospectors.
J. S. PHILLIPS TEACHES ASSAYING (OR TESTING Silver Ores, by Blowpipe, Crucible, or Chemicals, at room 11, No. 423 Washington street. An Evening Class from 7 to 9 o'clock. 12v18tf

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the Press is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books. *Nevada Gazette.*

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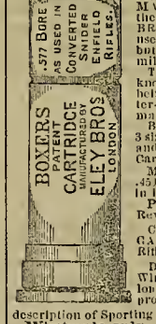

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18v15-1am-6m

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Persons going to White Pine will greatly promote their comfort by taking one of these Patent Bottoms, which is secured to a folding Bedstead, the cost of which is less than that of the materials at White Pine.
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6v18qr

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to the public to warrant publication.

Engineering.

PACIFIC RAILROAD ENGINEERS IN TOWN. Qnite a number of the engineering attachés of the Pacific Railroad Company have been in town recently; Col. Gray, the Consulting Engineer, who is in charge at present of the terminus problcm, and the route to be followed to wharfage ground; Major Bender, late of the State Snrveyor General's office, in charge of work on the Western Pacific line, about Livermore's Pass, etc.; and Messrs. Guppy, Henry Wright and John Wood, have also been noticed on the streets, their employment requiring them to be partly here, and partly across the Bay. After all that has been said ahout the terminus, and the termini, it seems that the question is only now in prospect of being bronght speedily to an issne. Owing to the lagging in Congress of the Goat Island terminns proposition, the Pacific Railroad Company will in all probability be compelled to bridge the Bay, and this can best be done at Ravenswood, situated at its narrowest point between here and San José, and nearly opposite to the road's emergence from the interior through Livermore's Pass. Thence it will continue to San Francisco in the main along the San José ronte, and make a direct line across the tide lands for the lots in this city selected, and to be granted hy the Tide Commissioner for terminal purposes. The distance across the Bay at Ravenswood is not greater than from Oakland to Goat Island.

Instead, however, of entering the corporation limits by the present San José route, it is understood amongst residents of the Potrero who have had opportunities of becoming informed, that the water's edge will be followed along the San Bruno shore road, the greater indentations heing all crossed hy piling from point to point, like that in the Long Bridge and the South San Francisco bridge. These bridges and the cut through the Potrero hill are to he widened—so say the Potreroans—for the accommodation of the Pacific Railroad. The terminus will prohably he somewhere outside the Long Bridge beyond the Steam Navigation Co's wharf.

DEFINATION OF ENCINEERING.—Hon. W. J. McAlpine, in the last lecture of the winter course at Steinway Hall, New York, February 10th, said: "Engineering is peculiarly the exponent of modern development. Its defination is 'the acquisition of that species of knowledge whereby the great sources of power in nature are converted, adapted, and applied for the use and convenience of man,' which covers the civil and military engineer, the architect and mechanician, the closet theorist, and the practical workman. The snbject covers the locomotive and its railway; the steam engine and its application; the metals and their manipulation; the workshops and their great tools; modern ordnance and armor; naval construction, telegraphy, bridges, canals, water supplies, harbors, etc., has been characterized by the various applications of steam; the product and manipulation of metals and telegraphy."

THE CANAL SCHEMES of the Kern Lake country, and of the "Sacramento Irrigation and Navigation Co.," are meeting with much opposition, on the ground that the object is land-grabhing, rather than reclamation and irrigation. If the projectors are operating on a bona fide basis, they will only have to present the data in a full and intelligihle manner, in order to gain every assistance that projects of the kind cau deserve.

RAILROAD GRADES.—It has been found by calculation and experiment, that heavy trains may descend a grade of 1-100th without attaining a greater speed than ahout forty or fifty miles an hour, even if allowed to run freely without applying the brake to check the speed. The velocity due to the accelerating force of gravity soon attains its greatest limit, and remains constant during the remainder of the descent, owing to the resistance of the air.

A MINING STOCK BOARD has been organized at White Pine.

Pacific Protective Association of California.

INCORPORATED OCTOBER, 1868.

PROSPECTUS.

OBJECT.—The object of this Association is to secure a cash payment, within sixty days after the death of a subscriber, to his or her heirs or assigns of as many dollars as there are individuals of the class to which said deceased subscriber belonged.

MEMBERSHIP.—The subscription fees are Ten Dollars at joining, and One Dollar on the death of each subscriber. The One Dollar from each subscriber is paid to the heirs or assigns of the deceased.

THE FUNDS.—The By-Laws of the Association require that a portion of the money received as subscription fees shall be a Sinking Fund to meet assessments falling due by the delinquencies of subscribers. The balance of the money received to be used for the payment of the expenses incurred by the Association.

MEMBERS.—A subscriber failing to pay his or her assessment of one dollar within Thirty days from receipt of notice forfeits his or her Certificate, and all claims upon the Association, unless good cause is shown for further delay. A subscriber can forward money in advance, which amount will be credited on future assessments. The subscribers are divided into classes including males and females. Each class is limited to 5,000 subscribers. As classes are filled, new ones will be formed. No person is so poor that he cannot pay Ten Dollars at joining and One Dollar occasionally, thus securing $5,000 to his or her heirs or assigns.

ADVANTAGES.—The advantages of this Association are, that no *money panic* can affect it. Its benefits are easily obtainable by all, and every subscriber added to the Association enhances the interest and protection of all; the amount paid being so small, and only at long intervals, that any person can secure for his family a competency upon his death.

CLASSES.—In Class A, all persons between the ages of 15 and 40 years; in Class B, all persons between the agos of 40 and 60 years.

Any one that has not stated his or her age correctly, will forfeit all money paid and his or her Certificate.

One class cannot be assessed if one of another class dies. Classes have no connection with each other.

HOW TO BECOME A MEMBER.—A person desirous of becoming a subscriber must fill out an application, and forward with it Ten Dollars by Check, Draft, or by Express, in gold or silver coin. Persons can pay agents, when regularly appointed and authorized to receive money. Each subscriber should interest himself in obtaining new members, by so doing all are benefited.

BOARD OF DIRECTORS.—Benjamin H. Freeman, George H. Russell, Samuel A. Raymond, James A. Pritchard, W. Le Roy.

OFFICERS.—Benjamin H. Freeman, President; George H. Russell, Vice President; John H. Warren, Secretary; James A. Pritchard, Treasurer.

REFERENCES.—Hon. Henry Dutton, President of Farmers' and Mechanics' Bank; Hon. Samuel Cowles, late Judge County Court, San Francisco; Hon. A. J. Cunnison, Attorney at Law, San Francisco; H. J. Booth, Esq., Union Iron Works, San Francisco; Henry F. Williams, Esq., Real Estate, San Francisco; John O. Hanscom, Esq., Etna Iron Works, San Francisco; John H. O'Brien, Esq., of O'Brien, Bush & Co., San Francisco; Hon. J. P. Jones, Gold Hill, Nevada.

All communications should be addressed to the Secretary of the

PACIFIC PROTECTIVE ASSOCIATION,

S. E. COR. OF MONTGOMERY AND SACRAMENTO STREETS, (Over Donohoe & Kelly's Bank,) SAN FRANCISCO.

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CARRIAGE SPRINGS.—Our mechanics are generally wide awake. Whenever any new branch of mannfactures is likely to pay, they quickly see it. Belduke & Co., wagon makers, 820 Folsom street, have recently embarked in one of these enterprises which appears fnll of promise. With an additional outlay of about $8,000 for engine and boiler, fnrnaces and other necessary machinery, they represent themselves as now fully prepared to manufacture wagon and carriage springs of all sizes and descriptions, in the very best style of the art, as conducted in the Atlantic States.

They have provided themselves with all the latest improved tools and machinery for condncting the business on a large and economical scale. The waste heat from the furnaces is treasured up and used again in heating the boiler, an item of economy in itself, hy no means inconsiderable. They have their steel imported expressly for the purpose, to secure the hest material.

The process is abont as follows: The bars of steel being cut the proper length by the shears, the sections are taken to the furnace and heated. They are then passed under the large and powerful rollers, worked by machinery, and drawn to the required thinness at the extremities. Thus prepared, they are returned to a furnace to be subjected to a nniform heat; after which they are fitted, tempered and polished. The last step in the process is to submit the springs to a test in a machine built expressly for the purpose, when they are ready for the market.

The punch and shear press, together with the rollers, were designed hy Mr. T. Stebins, pattern-maker at the City Iron Works, and most of the machinery and tools were put up by the Union Fonndry, the whole being of California mannfacture.

This firm, from their past experience in this line, and with all the appliances at command, are fnlly confident that they can compete in all respects, with the Eastern market. They certainly deserve credit, as well as encouragement, for the pluck and energy displayed.

OUR Gilroy contemporary complains of a correspondent of the PRESS who inserted amongst some Gilroy statistical items, which he procured, a stick-fnll additional figures which were clipped from the local paper, and not dnly credited. We do not think that our correspondent was ambitious either of undeserved fame, or of a reputation for industry not exercised hy him, but, that he was simply careless. The author of every article or item should in general be held responsihle for what he writes, especially when the noting of the authority wonld convey additional information to the reader concerning the matter, which is worth possessing. To omit giving credit intentionally in such a case, though a common practice, is leaving out an important part of the item, therefore worse than carelessness—it is stupidity.

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On the 10th, 18th and 30th of each month that has 31 days.

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Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departure of the 17th or 18th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

The following Steamships will be dispatched on dates as given below:

April 10th—CONSTITUTION.....Capt. Wm. H. Hudson, Connecting with ALASKA, Capt. Gray.

April 17th—GOLDEN CITY.....Capt. Wm. F. Lapidge, Connecting with HENRY CHAUNCEY, Capt. Connor.

April 30th—MONTANA.....Capt E. S. Farnsworth, Connecting with ARIZONA, Capt. Maury.

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No Freight will be received on board after 2 P. M. of the day prior to the steamer's departure.

The Steamship GREAT REPUBLIC, Capt. J. M. Cavnrly, will be dispatched for HONGKONG on MONDAY, April 5th, 1869, at noon, connecting at YOKOHAMA with the steamer NEW YORK, for SHANGHAI.

For passage, freight and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

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Resources and Developments.

WOOLEN MILLS IN CALIFORNIA.—We are informed by one interested in the business, that the woolen mills at Sacramento and Marysville are both engaged night and day at present in the manufacture of White Pine blankets, and are still unable to supply the demand. The San José Woolen Mill is likely to be brought into existence at an early day. The Oroville and Los Angeles projects are not yet brought to a head. Chinese labor is universally employed, and found to be equal, if not superior, to white labor; while it costs 10 per cent. less actually than white labor in the Eastern States. Under existing advantages it is believed that we may, before many years, export woolen goods to the East with a profit.

SILK IN LOS ANGELES.—The Los Angeles *Star* says it is intended to form a Silk Growers' Association in that county, for the purpose of propagating the silk worm and conducting the business connected with silk culture, as far at least as reeling the silk from the cocoons.

Messrs. Cover & Franklin have set out, in the neighborhood of the city, about half a mile west of the race track, a lot of land about eighteen acres in extent, in mulberry trees and cuttings, there being 10,000 seedlings of the morus alba, and 150,000 four-inch cuttings of the morus multiculis.

In connection with the foregoing, we may mention the fact, that Dr. Franklin has succeeded in obtaining, direct from Japan, through the Italian Consul at San Francisco, one cartoon of eggs of the worm which produces green silk, being one ounce or 40,000 eggs.

WORMWOOD appears to be a new article of traffic in this State. Sixteen bales of 250 pounds each were recently forwarded, at one shipment, from San Joaquin to this city, where it is manufactured into bitters.

A SCIENTIFIC TRACT SOCIETY has been proposed in New York as a means for the diffusion of useful knowledge among the people.

COAST LUMBERING.—Magnificent forests on the northern coast adjacent to shipping, are to a considerable extent still regarded as valueless, on account of the difficult bars at the outlets of the rivers, rendering them inaccessible. Steam-tugs are gradually opening new lumbering fields of this kind.

A NEW steam-tug was launched at Port Orchard, Washington Territory, a few days since. It is 65 feet long, 13½ feet beam, 6 feet depth of hold, and was built by and belongs to the Port Orchard Mill Co.

New Inventions.

THE NEW STYLE OF PILE DRIVING.—A model of the new pile-driving machine, in which powder is made to play a prominent part, has recently been brought to this coast, and is on exhibition by Mr. F. A. Hill, corner of Sansome and California streets. The peculiarity of this invention consists in the use of an iron chamber, which fits upon the head of the pile, and is hollow in the upper part. Into this chamber is placed a small charge of fulminating powder. The hammer, released from the ratchets by which it is held, falling upon the chamber, compresses the air (the chamber only being partially filled with powder) and starts the pile. An explosion follows, and the hammer is thrown upwards until caught by the ratchets. A portion of the force of the explosion is also expended upon the pile. The invention has been tried with success, we believe, in many of the Eastern cities.

NEW COUNTING MACHINE.—Mr. Vannader, of Potter Valley, in this State, has invented a counting machine, "which can be used in billiards, crib, ten-pins, and is peculiarly adapted to tallying for a threshing machine." It will also subtract. Mr. Vannader will apply for a patent.

AERIAL LOCOMOTION.—Master Siegrist has filed a caveat, claiming the invention of flying a velocipede. The machine is designed to run on a wire or rope, at any distance from the ground. Master Siegrist has become quite expert in managing the odd contrivance.

SAFETY RAILROAD.—Mr. Prettyman, of Multnomah County, Oregon, has made an improvement in railroad cars, which consists of wheels or pulleys to prevent the cars from running off the track.

White Pine Summary.

WORK DOING.—If Treasure Hill is a "monntain of solid silver," the tunneling companies are certainly on the direct road to luck. In any event the prospects offered seem to warrant undertakings of the kind, the rock being soft, and the probability of striking valuable veins in connection with Chloride Flat very strong. The Union and the American Basin are both already some distance in. News of actual development will be eagerly sought for, but kept quiet for speculative reasons. Probably nothing that is struck in the shape of veins will escape lawsuits as to title. In prespecting it seems every stone has not yet been overturned. From fifty to a hundred locations are made and recorded daily. The Mining Recorder invariably recommends all new comers not to buy old claims, but to go out and make new locations.

PROSPECTING AND NEW DISTRICTS.—Men are leaving Treasure City daily for Grant and Patterson districts, and other points to the southeast, where rich discovcries are reported.

TUNNELING FOR WATER.—These enterprises at Shermantown are progressing. Luther and Hney had not struck water in their tunnel at last accounts. Clark & Co. had struck a moderate stream of water, which increases every foot as they proceed. The tunnel was on March 9th, some seventy-five feet or more in length, and indications of a good ledge of silver ore were apparent. In consequence of the water, they are compelled to use the giant powder, which is quite as cheap, and answers for blasting purposes as well wet as dry.

STRIKES, SPECIMENS, ETC.—The White Pine *News* of March 27th, says: We were shown on Friday some very rich specimens of ore from the Schoharie ledge, at a depth of fifteen feet. The Schoharie was located in January, and includes 1,000 feet. It is situated about 1,500 feet from the Mazeppa, between that and the Eberhardt. The vein is four feet in depth, and has been explored to a depth of fifteeu feet. * * Mr. J. P. W. Davis, late of Healdsburg, California, a printer, has discovered a ledge on the eastern slope of Treasure Hill, which is described as a true fissure vein, six feet in width, and bearing rock similar to the Pocotillo. The vein is traceable for over 200 feet. Assays have showu a value of $175 per ton. * * Same of 31st: It was currently rumored yesterday that another very rich strike and extensive body of ore had been developed iu the Eberhardt mine, at a depth of 180 feet.

NEW WORKS—NEW DEVELOPMENTS.—The San Francisco Smelting Co. will shortly commence the erection of extensive smelting works at the flourishing little town of Swansea, a short distance above Shermantown. * * Some very rich developments have been made during the past few days in the vicinity of the California mine, on the southern end of Treasure Hill. The Knickerbocker, a claim situated in the vicinity of the Eberhardt, has turned out some very good ore, resembling both in appearance and the assayer's figures the ore from the Eberhardt. Work has recently been resumed upon the Knickerbocker. In the California, considerable quantities of ruby silver are reported to have been met with, and other claims in the vicinity are looking well. * * The Anita mine is situated about one mile from Hamilton, on the Shermautown road, and owned principally by parties iu Napa Valley, Cal. About two tons of fine ore is now lying at the dump, and work is progressing favorably. It is estimated that the ore will mill between $200 and $300. The Dividend miue, in the same locality, also turns out some fine ore, and day before yesterday some Germans prospecting in the vicinity struck rock which assays $900 to the ton. * * The Great Union Tunneling Co., composed San Francisco capitalists, proposes to run a tunnel under Treasure Hill, commencing at the north end, a short distance south of the Hidden Treasure mine. * * The old Manhattan mill, from Dayton, has been brought to Hamilton by the Union M. & M. Company.

OUTSIDE DISTRICTS.—PATTERSON.—*Inland Empire* says there are 250 men in the district, and the road thither is lined with prospectors. Mr. Barucy thiuks the Patterson mines are not over 80 miles from Hamilton, himself and a companion having ridden the distance iu two days quite easily.

SHOSHONE.—A letter from E. J. Hotchkiss speaks in the highest terms of Sheshone district, which is 25 miles northeast of Patterson. The writer says it is the best camp he has visited in the silver regions of Nevada.

GRANT DISTRICT lies about 65 miles south of Treasure City, in a continuation of the same range, the road being through Huntingten valley, and at all times passable for heavy teams. The ledges are very large, well defined, and cased in limestone and slate. Some are particularly massive, one, the Patriarch, being at least 200 feet in width and cropping for nearly three miles. Assays from the different ledges in the district, range from two hundred to as many thousand. A stage runs regularly to Shermantown. The town site of Grant has been surveyed, streets laid out and a number of houses built.

PIUTE DISTRICT is in process of organization, about 40 miles west of Hamilten, a sliort distance from the road leading from this place to Austin, and persons going by stage disembark at Piute creek. The C. L. Place, the New York, the Last Chance, San Francisco, and Our Own No. 1, are said to be large and well defined ledges, the lowest assay yet made from croppings being $123, the highest going $624. There are parties leaving daily for Piute creek, both from Hamilton and Austin. [The *Reveille* says this is Pinto, not Piute.—EDS. PRESS.]

WHITE CLOUD district is 75 miles north of White Pine. The Santa Clara *News* of March 27th, speaks of it as follows: Some months since a number of gentlemen at San José dispatched a party to prospect the place. He returned six or eight weeks ago. Mr. Charles Silent, of San José, was sent to examine the district, and returned with rock which assayed $70 gold, $9 silver, and from 23 to 43 per cent. copper.

INDIAN VALLEY, 80 miles east of White Pine, was discovered several months since, but kept secret until the last fortnight. The ore is said to resemble the best of that at White Pine.

The mining laws of Eureka have been so amended that a "deposit claim" shall be 100 feet sqnare, and ten dollars' worth of work shall hold a square six months.

New Mining Advertisements.

Daniel Webster Mining Company.—Location of Works: White Pine County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of April, 1869, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the t nth day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of May, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

C. A UHRIG, Secretary.

Office, No 418 California street, San Francisco.

Golden Rule Mining Company, Tuolumne County, California.—Regular Bi-monthly dividend (No. 19) of the Golden Rule Mining Company, of Tuolumne County, Cal., of 2½ per cent. per month, or fifty cents per share, is now declared, and will be paid to the Stockholders on and after the 26th inst. Office, 432 Montgomery street, Room No. 5.

J. B. RUSSELL, Secretary.

W. T. BOSWORTH, President.
A. S. PHIFER, Superintendent of Mine. ap10

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth (6th) day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John Amos	58	1	$1 00
A Birrell	17	10	10 00
A C Teltman	16	82 11-13	82 84
A C Teltman, Trustee	5	11 6-13	11 46
A C Teltman	29	64 8-13	64 61

And in accordance with law, and an order of the Board of Trustees, made on the sixth (6th) day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on Monday, the twenty sixth day of April, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. ap10

Mining Notices--Continued.

Cordillera Gold and Silver Mining Company.— Morelos District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twentieth (20th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the tenth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY B. REED, Secretary.

Office, 321 Washington street, San Francisco. mar20

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-third day of January, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Baum, Charles	2	20	$15 00
Baum, Charles	63	50	37 50
Borel, F A	79	200	150 00
Borel, F A	81	100	75 00
Borel, F A	83	50	37 50
Borel, F A	84	50	37 50
Borel, F A	122	207	155 25
Burning, Charles	65	100	75 00
Gordon, John	18	75	56 25
Gallagher, James	50	100	75 00
Hardy, Thomas	21	300	225 00
Lehmann, Chr	24	5	3 75
Leavitt, John	25	250	187 50
Murdock, C A	105	100	75 00
Murdock, C A	106	150	112 50
Murdock, C A	120	39	29 25
Probst, Ernst	137	3	2 25
Vander Poorl, J G	28	50	37 50
Wentzell, Julius	133	2	1 50
Wilson, E	96	50	37 50

And in accordance with law, and an order of the Board of Trustees, made on the twenty-third day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, Califo nia, on the twenty-seventh day of April, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. N VAN SAUNT, Secretary.

Office 426 Montgomery street, San Francisco. p

North American Wood Preserving Company.

Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the twelfth day of March, 1869, an assessment of one ($1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 430 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourteenth (14th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the first day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.

Office, 430 Montgomery street, San Francisco. mar13

Pacific Coal Mining Company, Contra Costa County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of March, 1869, an assessment of four dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventeenth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. LACHMAN, Secretary.

Office, southeast corner Market and First streets, San Francisco. mar27

Star Creek Mining Company.—Location: Star District, Humboldt County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the twenty-sixth day of February, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Babb, L H	unissued	6	29	$30 00
Bates, A B, Att'y	unissued	10	143	214 50
Davis, Erwin	unissued	2	776	1164 00
Davisson, R S, Att'y	unissued	9	200	300 00
Faulkner, George	unissued	12	1000	1500 00
Lent, Wm M	unissued	1	530	795 00
Levingston, Isaac	unissued	8	108	162 00
Minturn, Charles	unissued	7	101	150 00
Morrison, S A	unissued	5	100	150 00
Phelan, James	unissued	11	72	108 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-sixth day of February, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the nineteenth day of April, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HORACE MORRISON, Secretary.

Office, N. E. cor. Front and Jackson streets. ap3

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco mar27

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco mar27

Troy Ledge Mining Company, White Pine District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on Friday, the twenty-third day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. mar24

Machinery.

VARNEY'S
PATENT AMALGAMATOR,

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into he pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

ELLERY'S PATENT
India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,

Iron, Brick and Wooden Buildings,

SHIPS, STEAMBOATS, STAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

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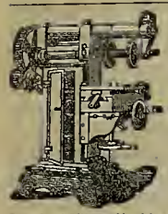

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Pipe Vise, with or without Extra Jaw.

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OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y O. H. NOTT, Pres.

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PRICES REDUCED!
MACHINES OF ALL SIZES FOR SALE
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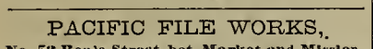

Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**

Removal.

NELSON & DOBLE,
AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

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W. O. M. BERRY & CO.,
Are the manufacturers' agents for Richardson, Merriam & Co's celebrated
Wood Working Machinery,

Embracing every description of Planers, Matchers and Mortisers, Moulding, Tenoning, Boring, Shaping, Vertical and Circular Re-sawing Machines; scroll, Railway, Cut-off and Rip Saws, etc., etc. Agents for the Swam-cot Co's

Improved Portable Engines,

Warranted fully equal to any in the market; Davis & Furber's Woolen Machinery; Blake's Patent Steam Pumps; Kilburn's and Warren's Turbine Water Wheels, etc., etc.

Orders for Machinery of any kind will receive prompt attention. Machines for special purposes built to order. Send for Illustrated Catalogue. W. O. M. BERRY & CO,

8v18-3m 114 California st., San Francisco.

Notice to Miners,
Well-Borers and Water Companies,

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

3v13-1y Stove Store, No. 1 Clay street, below Davis.

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Blacksmith and Machine Shop,
143 Beale St., bet. Mission and Howard,

SAN FRANCISCO,.

All kinds of Edge or other Tools made to order. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted.

21v17-6y **J. WEICHHART, Proprietor.**

PATENT
Boiler Scraper and Tube-Cleaner.

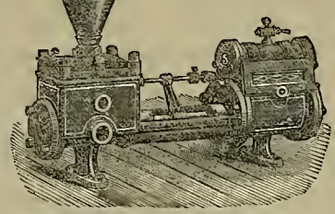
IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches rangine from $8 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

BLAKE'S PATENT



STEAM PUMP!

This Pump is warranted superior to any in the market, for Breweries, Sugar Houses, Tanneries, Boiler-Feeders, Steamboats, Mining and Fire purposes, etc. It throws a full stream of the thickest beer mash without clogging, and sugar syrup boiling hot without difficulty.

Warranted a positive Pump under ALL circumstances; it never stops nor creates disorder, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

☞ If one fails to do the work for which it is sold, it may be returned and the money will be refunded. May be seen in operation at Risdon's, or Union Iron Works, or at

W. O. M. BERRY & CO'S,

Agents for Pacific States,

8v18 3m 114 California street, San Francisco.

GLASGOW
Iron and Metal Importing Company
Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

The Perfection of Prepared Cocoa.

MARAVILLA COCOA.

Sole Proprietors—TAYLOR BROTHERS, London.

The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skillful application of their soluable principle and elaborate machinery, produced what is so undeniably the perfection of Prepared Cocoa, that it has not only secured the preference of homœopaths and cocoadrinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.

"A SUCCESS UNPRECEDENTED."

[See following extract from the Globe of May 14, 1868.]

"Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adapting their perfect system of preparation to this finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.

Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.

6v18-1y

Our Patent Agency.

The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's tariff on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must, themselves settle the same.

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BARTLING & KIMBALL,
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MARBLE WORKS,
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Mantels, Monuments, Tombs, Plumbers' Slabs

Etc., On hand and Manufactured to order.

☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v3-3m

J. M. STOCKMAN,
Manufacturer of
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(Over W. T. Garratt's Brass Foundry,

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SEAL ENGRAVER,
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Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.

6v16

DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,
Manufacturers of all kinds of
Desks and Office Furniture,

717 Market street, near Third.

Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

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For the "American Year Book and National Register," for 1869.

Horace Greeley's Autobiography, and other new and popular works. Send for descriptive circulars.

F. DEWING & CO.,

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THE GOLDEN ERA.

Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family Journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

THE GOLDEN ERA

is the most universally popular of all the Weekly Journals. It presents forty-eight columns, containing the greatest possible variety of Valuable and Entertaining, Original and Selected matter. It is a welcome guest in Cottage and Cabin; the favorite at the fireside in city and country; the most useful, agreeable and altogether desirable publication for California readers and their kindred and friends in the Atlantic States, Europe and elsewhere. Every household in the mountains and valleys, the cities, towns and mining camps of California, and throughout the Pacific States and Territories, should receive and welcome THE GOLDEN ERA as a regular weekly visitor. Inspired with the genius of the age, it is progressive, and aims not so much at distinction as a newspaper, as at honorable success in its capacity of a great Moralizing and Improving Influence, Exercising a positive power for good, and wielding a permanent influence, many able and eminent writers choose its columns as a means of communicating with the public. No effort will be spared to make it a thoroughly California newspaper, and worthy of the support of all classes of our citizens.

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Send money to our office in registered letter, or by Express, Address,

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OCCIDENTAL
Insurance Company,
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Cash Capital, - - - - - - - $300,000

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Fire and Marine Insurance.

All Losses paid in U. S. Gold Coin.

CHR. CHRISTIANSEN, President.

B. RAYHSCHILD, Secretary 20v17-3m

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

[Written for the Mining and Scientific Press.]

Developments of the Teaff Hydraulic Mining Shaft.

DUTCH FLAT, March 30th, 1869.

EDITORS PRESS:—Aecording to promise, I herewith furnish you further data of the Teaff shaft at this place, and of the peculiarities of the curious deposit gone through in sinking the same. In the first place it should he understood that the top of this ground has been worked off to a considerable depth in hydraulic mining, and at the place where the shaft is sunk there is a hard stratum of iron cement, about six or eight inches thick, the result of a cementing combination of pyrites or sulphurets of iron, with gravel. Now yon find immediately under this a rich streak of dirt some thirty feet deep, of a greyish color; and under this another streak of the sulphuret deposit, but of a greenish east. This deposit is about two feet thiek; and when we begin to arrive at a depth of about 30 feet from this to the bedrock, throughout the whole distance, gold in coarse particles is visble in the sides of the shaft. The peculiarities are that there is a perfect line between each of the great periodical deposits which have been thrown into this large basin; and then it seems as though long periods had been employed in washing away all the lighter matter than the sulphurets, to certain depths; and then another deposit, and so on, in this manner, until this channel was broken by the eross streams which now flow from the Sierras.

Judging from the pieces of cement that I have seen from this shaft, and the distanee from the bedroek from which they were taken, I should be constrained to say that this is the richest part of the "Blue Lead" yet developed.

The shaft is now filled with water, up to the level of Mr. Teaff's tunnel, from the end of which the shaft is sunk, the top ground having been worked through this tunnel some 3,000 feet. The entire depth does not contain a pan of dirt without gold; I mean that from the top or grass roots, to the bedreek, 425 feet, contains gold in every pan. This top ground has paid well; but there must now he a tunnel run this hundred feet lower in order to drain the rich deposit of cement; and there must he stamps and machinery employed to work it. Mr. Teaff has the neeessary energy, and this large amount of ground, comprising what has been known as the "Welamaloo," "Franklin," "St. Midas Water Co.," "Little Hope," and "Fish Line," will begin to yield up their millions of golden treasure.

A. E. R.

GOLD MINING STILL PROFITABLE IN GEORGIA.—The following item we find in the *Air Line Eagle*, of Gainesville, Ga. Captain Bosworth is a Californian, and an old subscriber of the MINING AND SCIENTIFIC PRESS:

On Tuesday last, (Feb. 23d) we were shown by Captain N. S. Bosworth, of the Nachoochee mines, three nuggets of virgin gold, recently found in the mines he is working there, weighing respeetively 375, 249 and 103 dwts. The Captain is operating for a Boston Company—is working thirty hands, and is averaging about 100 dwts. per day. He also showed us at the same time the yield of his mines for the niueteen days previous, which was a handsome "pile"—weighing between six and seven pounds. Captain Bosworth informed us that as spring opens, he eontemplates increasing his working foree to seventy-five hands, and intends opening several valuable veins upon the property he is now working. The Captain is a praetieal miner, and this sueeess is but an index to what may be doue in the rich mines of this seetion, whenever skill and eapital are brought to bear upon them.

LARGE GUNS.—The largest European gun is of steel, by Krupp, 14 inches bore, and will throw a ball of 1,000 pounds, but has never heen fired. The next largest European gun is an Armstrong rifle, which throws a shell of 610 pounds. The 12-inch American Rodman rifle throws an elougated shot of 630 pounds, and the 20-inch smooth-bore, a spherieal shot of 1,072 pounds. The "Swamp Angel" is a Parrott rifle, 8 inches bore, and threw shot of 150 pounds a distance of 5½ miles into Charleston. Its ancient rival, "Mons. Meg," is 20 inches bore, and threw stone balls of 18½ inches diameter, but its range did not exceed a mile and a half.

BRILLIANT WHITEWASH, CLOSELY RESEMBLING PAINT.—Many have heard of the brilliant stucco whitewash on the east end of the President's house at Washington. The following is a receipt for it—for which we are indebted to Mr. Foye, of Oakland:

Take one-half bushel of nice unslaked lime, slake it with boiling water, cover it during the process to keep in the steam. Strain the liquid through a fine sieve or strainer, and add to it a peck of salt, previously well dissolved in warm water, three pounds of ground rice, boiled to a thin paste, and stirred in boiling hot, one-half pound of powdered Spanish whiting, and one pound of clean glue, which has been previously dissolved by soaking it well, and then hang it over a slow fire in a small kettle within a large one filled with water. Add five gallons of hot water to the mixture, stir it well and let it stand for a few days, covered from the dirt. *It should be put on right hot*; for this purpose it can be kept in a kettle on a portable furnace. It is said that about a pint of this mixture will cover a square yard upon the outside of a house, if properly applied. Brushes more or less may be used according to the neatness of the job required. It answers as well as oil paint for wood, brick or stone, and is cheaper. It retains its brilliancy for many years. There is nothing of the kind that will compare with it, either for inside or outside walls. (Buildings or fences prepared in this manner will take a much longer time to burn, than if they were painted with oil paint. This one thing alone should be inducement for persons to try the experiment.) Coloring-matter may be put in, and made of any shade you like. Spanish-brown stirred in will make red pink, more or less deep, according to the quantity. A delicate tinge of this is very pretty for inside walls. Finely pulverized common clay, well mixed with Spanish-brown, makes a reddish stone-color. Yellow-ochre stirred in makes yellow wash; but chromo goes further, and makes a color generally esteemed prettier. It is difficult to make rules, because tastes are different; it would be best to try experiments on a shingle and let it dry. Green must not be mixed with lime; it destroys the color, and the color has an effect on the whitewash which makes it crack and peel.

CURIOUS ISLAND.—In the lake of Ilsing, in Lavonia, there is an island that rises above water and disappears periodically. During the summer heat a considerable quantity of gas is generated from a bed of coal under the surface, then a huge, black mass, like a gigantic bladder, is seen to rise. If the summer is warm and lasting, the surface becomes one mass of aquatic plants, but on the first appearance of cold nights the whole island sinks and lies dormant until the ensuing year at the bottom of the lake. The various phases assumed by this strange phenomenon of nature serve as a weather glass to the country people of the locality.

CALIFORNIA
BUSINESS UNIVERSITY,
204 Montgomery Street.

Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
17v17-9p12p E. P. HEALD, San Francisco.

Avery Pump and Tube Well.

Complete for Use.

The TUBE WELL is formed by driving prepared iron piping into the ground with a sledge. Although of comparatively recent invention, these wells have won a world-wide reputation, and are proven to be superior to the ordinary dug well, costing sometimes less than one-fourth that of others, and at the same time excluding the surface water and dirt. The tubing is coupled together in lengths of about six feet, as they are being driven into the earth; the valves are then dropped in and the Pump screwed down on top.

FORCE AND LIFT PUMPS

Always on hand. For ease of Working, durability and force, the Avery Pump has no superior. For circulars, etc., address Postoffice box 17.

URRIG & DEWEY,
13v18tf 318 Pine street, San Francisco.

MECHANICAL AND ARCHITECTURAL
Drawing School
—FOR—
APPRENTICES.

MR. FREDERICK HELLERT,

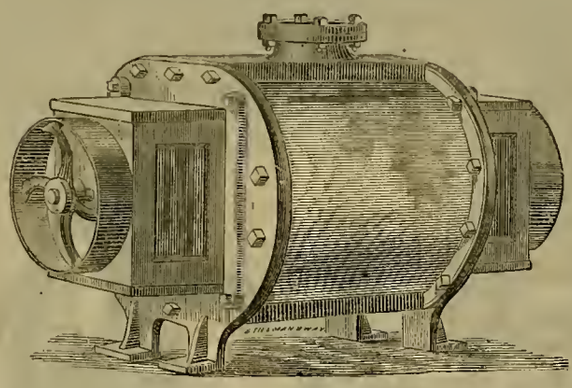
An experienced Draughtsman and Teacher, has opened an Evening School at No. 414 CLAY STREET (same entrance as the Mining and Scientific Press Office), where he is giving thorough instructions in DRAWING to apprentices who are inclined to self-improvement. His terms are moderate and within reach of the humblest apprentice; and we are pleased to say that the enterprise is meeting with success.
1v18.tf

ELECTROTYPE ENGRAVINGS, CUTS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State

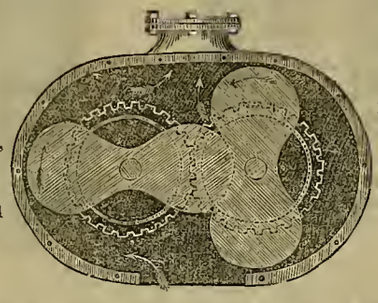
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1854; July 21, 1856; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR Smelting, Foundry, Mining and Steamships.



REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

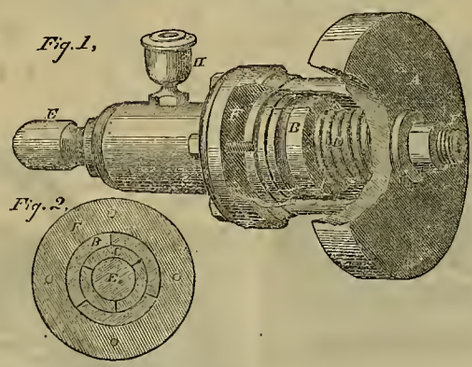
One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP & BARGION,
4v16 3m Globe Iron Works, Stockton, Cal.

COLLIER & SILLIMAN'S
METALLIC PRESSURE PISTON ROD PACKING.



This invention relates to the packing used to render piston rods or propeller shafts steam and water tight, and has for its object the construction of a metallic packing, which shall be operated upon by gas, the vapor or liquid exerting the pressure, in such a manner as to form a perfectly tight joint. It also consists in so forming the gland of the stuffing box, that it shall serve as a support and guide for the rod and shaft, and at the same time afford great facility for lubrication.

Two small openings now connect the interior of the cage with the source of pressure—as the cylinder in an engine or pump, or the water outside of the ship if it is for a propeller shaft—so that the greater the pressure the closer are the rings forced against the rod and inner face of the gland. In any case the Packing is to be applied to a water or air pump, so that the pressure will come from the liquid or the gaseous substance, as the case may be. One of the most important uses of this Packing is in the stuffing boxes of propeller shafts, in which case the openings connect with the outside water, the pressure on the rings depending upon the depth to which the shaft is submerged. This device is simple, and not easily got out of repair; is perfectly efficacious and self-regulating, and in the case of shafts, especially, will do away with the great expense of repairing the derangements of the stuffing box which now so frequently occur. This new invention has already been adopted on the Central Pacific Railroad and by some of the principal Flouring Mills in San Francisco and Sacramento, and is growing at once into popular favor. A description of the engraving accompanying this will be found in the *Mining and Scientific Press* Jan. 9, 1869, and in the patentees' circular, which can be had free on application.

Certificates of Recommendation:

OFFICE C. P. R. R. CO. OF CAL., Sacramento, Nov. 24, 1868.—*To Whom it may Concern:*—This Company has made a thorough practical test of Collier & Silliman's Patent Metallic Rod Packing, and find it a superior mode of packing to any other in use, and accordingly recommend it to all others interested.
E. B. CROCKER, Gen. Agent C. P. R. R. Co.

THIS IS TO CERTIFY, that we have been using the Collier & Silliman's Patent Metallic Rod Packing, and find it a superior mode of packing to any other in use, and would recommend it to all others interested.
SETH H. GARFIELD, Prop. Pioneer Mills, Sac. City; WM. EICHELLS, Engineer.

For sale at the principal Machine shops and Foundries in San Francisco. Full particulars can be obtained by addressing ORRIN COLLIER, Sacramento, Cal., or E. B. SILLIMAN, Bridgeport, Ct.
3v18 3m1am

Metallurgy.

MOSHEIMER'S
PIONEER MINING SCHOOL,
—AND—
METALLURGIC WORKS.

Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of

Chemistry, Assaying and Metallurgy,

That I am prepared to teach all the above branches in less time than in any European School.

I also undertake to assay and work any kind of ore, or mineral substances.

For terms, apply to JOS. MOSHEIMER,
Practical Chemist and Metallurgist.
Office, 328 Montgomery street; Metallurgic Works, 2005 Powell street, San Francisco. 6v18-6m

LEOPOLD KUH,
Assayer and Metallurgical Chemist,
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The correctness of which is guaranteed in every respect. All kinds of Ore and Mineral tested, assayed and analyzed in the most satisfactory manner.

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PROF. HENRY WURTZ,
Formerly Chemical Examiner in the U. S. Patent Office may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures, Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞ Written communications preferred.

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SODIUM AMALGAM.
All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

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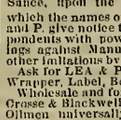
14v15tf.

LEA & PERRINS'
CELEBRATED
WORCESTERSHIRE SAUCE



Declared by connoisseurs to be the only
GOOD SAUCE.

The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for

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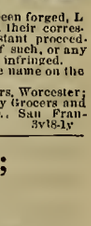
Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.

Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CROSS & CO., San Francisco. 3v18-1y



SULPHURETS;
What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.

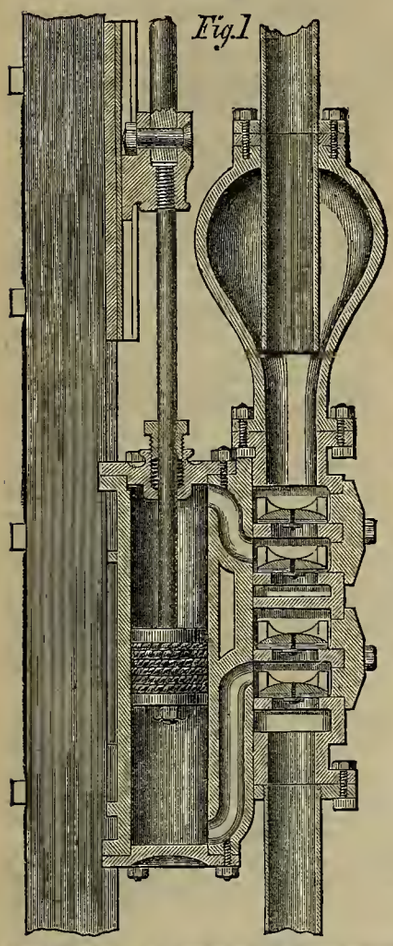
By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

For sale at this Office.—Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

THE EXCELSIOR PUMP.



THE BEST PUMP FOR MINING,
FARMING AND DOMESTIC PURPOSES.

Hooker's Patent, August 15, 1866; Jan. 15, 1867.

IMPROVED
DOUBLE-ACTING SUCTION AND FORCE PUMP.

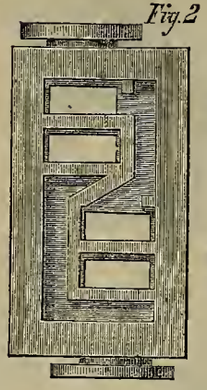


Fig. 3.

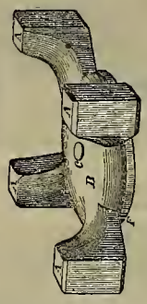
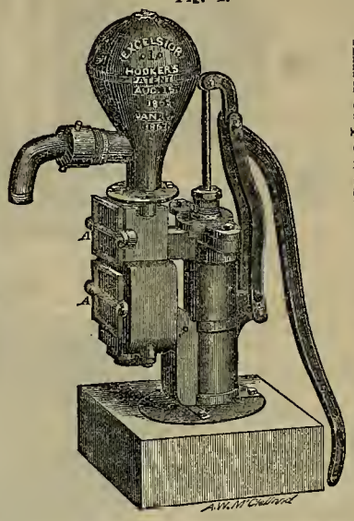
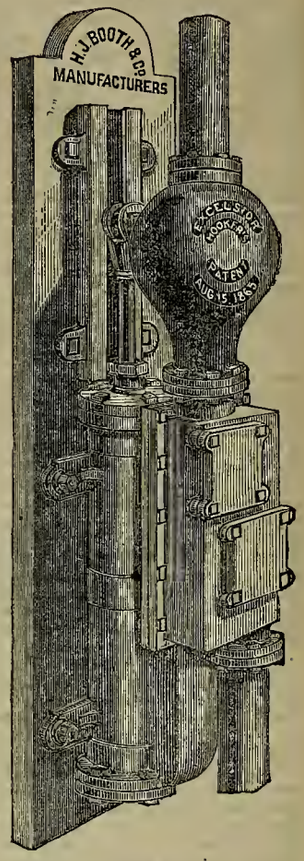


Fig. 4.



Seventeen different Styles and Sizes, suitable for all purposes, and for any kind of power.

Fig. 5.



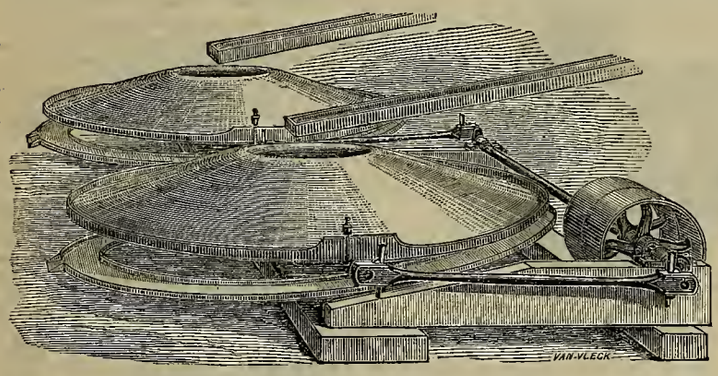
These Pumps are meeting with universal favor wherever tried, and are now being introduced, in many instances superseding Pumps which had hitherto been considered the best in the world.

Fig. 1 is a sectional view of a 6-inch Mining Pump, showing the plunger and hemp packing on the left, with the chamber on the right containing the puppet valves. Fig. 2 represents the chamber, with the water-passages and valve-seats. Fig. 3 is the valve, operating in the chamber. Fig. 4 is the improved Hand Pump. Fig. 5, a 6-inch Mining Pump, shows the adjustable bonnet opening to the valves.

For Circulars, or further particulars, inquire of or address J. W. BRITTAN & CO. Agents, 120 Front street, San Francisco; H. J. BOOTH & CO., Union Iron Works, First street, San Francisco, or

CUSHING & CO., Proprietors,
San Francisco.

JOHNSON'S
PATENT BATEA SEPARATOR AND AMALGAMATOR



For Separating Powdered Mercury, Gold and Silver from Sands and Sulphurets.

These machines are made of cast iron, five feet in diameter, and covered with sheet copper; they require but very little power, and no attendance or expense after set in motion. They are designed to receive the stream from a battery or from amalgamating pans. The movement will keep the sands and sulphurets loose and in constant motion from center to circumference. The powdered mercury containing gold or silver is, by the law of gravitation, precipitated to the bottom on the copper. The weight of the loose sand and water, together with the movement of the machine, will cause a gentle friction sufficient to concentrate the powdered mercury. When concentrated, the amalgam adheres to the copper, whilst the mercury flows on down to the recess in the rim, where it is confined, and the sands and sulphurets are allowed to discharge over the top of the rim all aronnd upon a circular apron terminating in a sluice. These machines are simple, new, novel, cheap and effective. Weight of a pair, with gearing, about 1,000 pounds.

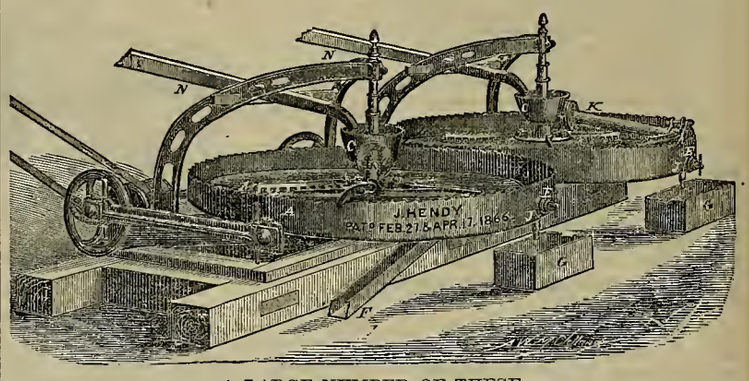
Price, for a Single Machine, complete, - - - $300.
For a Pair, - 500.

Manufactured and for sale by

HOWLAND, ANGELL & CO.,
Miners' Foundry, San Francisco.

15v18-2am

PREMIUM FOR BEST CONCENTRATOR
AWARDED BY THE
MECHANICS' INSTITUTE, 1868,
ALSO AT THE STATE FAIR FOR 1868,
To J. HENDY.



A LARGE NUMBER OF THESE
IMPROVED CONCENTRATORS
ARE IN PRACTICAL USE ON THE PACIFIC COAST.

Mr. Hendy, by diligent and practical application, has improved his Concentrators until they now stand unrivalled, far in advance of any yet brought to public notice. By recent alterations in the patterns for these machines, they are now made

Stronger and more Durable than Ever.

Office of North Star Mine, Grass Valley, Nov. 12, 1868.

Joshua Hendy, Esq.—Dear Sir:—I take pleasure in certifying to the efficiency of the two last Concentrators ordered from you. We have run them steadily since July last, with but a very trifling expense for repairs. The additional length of step is a decided improvement. The first six sent to us have run steadily for nearly nine months, and are still doing good work. * * * The concentrations from the eight pans alone much more than pay our entire surface expenses. Without them we should lose a large proportion by any system of concentration now in use. The eight Concentrators receive the pulp from our 24 stamps, which are crushing 1,040 tons per month. Our sales of Sulphurets last month amounted to 70 tons, or nearly 7 per cent. of the mass crushed. The sulphurets from the reconcentration, contained about 10 per cent. sand. In addition to their properties as concentrators, they have done us good service as amalgamators, they having saved us the past month 50 ounces of hard amalgam, worth $350, which otherwise would have been lost.

Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.
Office at Union Iron Works.

13v17tf

MINING AND SCIENTIFIC PRESS.

Subscription, $5 Per Annum. Single Copies, 15 Cents.

A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, APRIL 17, 1869.

VOLUME XVIII. Number 16.

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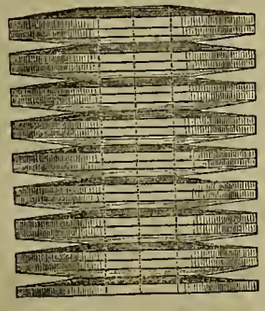
MISCELLANEOUS SUMMARY—Comprising late intelligence from the various countries and districts in California, Colorado, Idaho, Montana, Nevada and Wyoming:
San Francisco Metal Market.
San Francisco Market Rates.
Notices to Correspondents.
Stock Prices—Bid and Asked.
New Incorporations.
San Francisco Mining Shareholders' Directory.

The Belleville Buffer Spring.

This invention shows a new method of taking advantage of the elasticity of steel for spring purposes. It consists in placing over each other a number of steel rings or disks of conical shape having a hole through the middle, always the convex side of one against the convex side of the next ring, and its concave side against the concave



side of the next, in such a manner as to form the pile shown in the engraving. The buffer is applied in the same manner precisely as the rubber buffer. The elasticity of steel applied in this manner, admits of considerable spring on the application of a weight from above; and the steel buffer is much more durable, not affected by heat, is less expensive, can be replaced, each ring or disk separately, in case of breakage, and is stronger than either the volute or the elliptic spring. The agent is S. L. Percira, No. 410 Montgomery street.

CHLORIDE WONDERS are set afloat by several of our Nevada cotemporaries, under date of April 1st. The *Enterprise* describes with some minuteness a mammoth tooth found imbedded in chloride of silver—which mammal, it appears, must have been of the carboniferous age. Though this strikes us as rather early to be out, for the *Enterprise's* lone beast, yet we are bound to coaccde that nothing is too wonderful for White Pine. The *Reveille*, and half a dozen soberer aiders and abettors, had a chunk of chloride journeying heavenwards in the fork of a tree, by whose rank growth it had been lifted from the prolific soil. It was before the 1st of April that little puddles of metallic silver were in the habit of being found where the Indians had been building their fires.

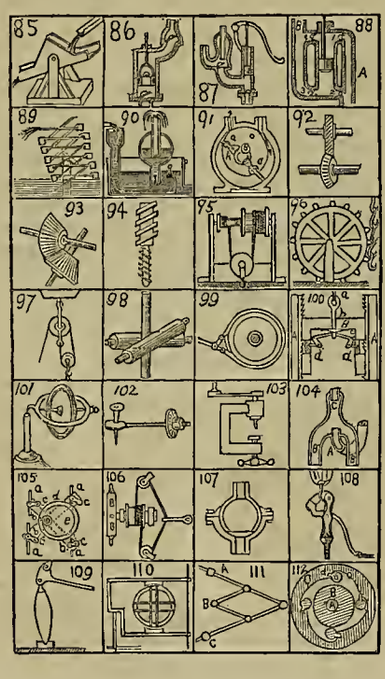
Mechanical Movements.

We continue (from page 113) our illustrations of mechanical movements:

85. Obtaining vibratory motion from a trough divided transversely at the middle, and supported on an axis. Has been used as a water meter.

86. Common lifting pump.

87. Force pump, with air-chamber to the outlet, to produce a constant flow. The cylinder is above water, and is fitted with solid piston. When piston is rising, suction-valve is open, and water rushes into cylinder, outlet-valve being closed. On descent of piston, suction-valve closes, and water is forced up through outlet-valve to any distance or elevation. The outlet from air-chamber is shown at two places, from either of which water may be taken. The air is compressed by the water during the downward stroke of the piston, and expands and presses out the water from the chamber during the up-stroke.



88. Double-acting pump.

89. Pendulums or swinging gutters for raising water.

90 Montgolfier's hydraulic ram. The right hand valve being kept open by a weight or spring, the current flowing through the pipe from left to right escapes thereby. When the pressure of the water current overcomes the weight of the right valve, the momentum o the whole column of water opens the other valve, and the water passes into the air-chamber. On equilibrium taking place, the left valve shuts and the right valve opens. By this alternate action of the valves, water is forced into the air-chamber at every stroke, and raised to a greater hight through the outlet-pipe.

91. One form of rotary pump or steam engine.

92. Transmitting motion from one shaft obliquely to another.

93. Similar to 92.

94. Micrometer screw, by which great power can be obtained.

95. Chinese windlass, embracing same principles as 94. The movement of the pulley in every revolution of the windlass is equal to half the difference between the larger and smaller circumferences of the windlass barrel.

96. Chain wheel, the cogs locking into the links of the chain on the right.

97. Hoisting blocks.

98. Longitudinal and rotary motion of the rod is produced by its arrangement between two rotating rollers, the axles of which are oblique to each other.

99. A brake used in cranes and hoisting machines. By pulling down the end of the lever, the ends of the brake-strap are drawn toward each other, and the strap tightened on the brake-wheel.

100. Otis's safety stop. The weight of the platform and the tension of the rope keep the pawls out of gear from the ratchets in hoisting or lowering the platform, but in case of the breakage of rope the spring, c, presses down the pin, b, and the attached ends of the levers, and so presses the pawls into the ratchets and stops the descent of the platform.

101. The gyroscope. If the disk is set in rapid rotary motion on its axis, and the pintle at one side of the ring, is placed on the bearing in the top of the pillar, the disk and ring seem indifferent to gravity, and instead of dropping begin to revolve about the vertical axis.

102. Helicograph. The small wheel moves along the screw as it revolves about the central point, and describes a spiral,

103. Portable cramp drill. The feed-screw is opposite the drill.

104. Steam siphon pump. Jet of steam enters through and into C, and expels the air from C, forming a vacuum, thus causing the water to rise through B, B.

105. One form of feathering paddle-wheels.

106. Ordinary steering apparatus. By turning the wheel, one end of the rope is wound on the barrel and the other let off, and the tiller is moved in one or the other direction, according to the direction in which the wheel is turned.

107. Ball and socket joint for hydraulic pipe or tubing.

108. Boat-detaching hook. A rope attached to the lower end of each lever is pulled in such a direction as to slip the eye at the upper end of the lever from off the tongue, which being then liberated slips out of the hook of the tackle and detaches the boat.

109. A knee-lever. Great force is obtained by raising or elevating the horizontal lever.

110. Shoe and lever brake.

111. Pantagraph for copying, enlarging and reducing plans, etc. C, fixed point. B, ivory tracing point. A, pencil trace, the lines to be copied with, and B, the pencil, will re-produce it double size. Shift the slide to which C is attached, also the pencil slide, and size of the copy will be varied.

112. Johnson's friction clutch. The outer hand or rim revolves freely when moved to the right, but when turned to the left the four rollers play instantly back into the narrow portions of the recess, and bind the rim fast to the journal or center piece.

We shall soon issue this series of Mechanical Movements in full,—together with much other valuable information for inventors,—in pamphlet form, copies of which will be furnished free on application, or sent to order by mail.

CROSS' COMBINED HEATER AND SEDIMENT COLLECTOR.—The royalty on this invention—to render more advantageous in boilers the use of salt or muddy water, and more fully described in the MINING AND SCIENTIFIC PRESS at the time of its invention, about a year ago,—has been reduced 45 per cent., as will be seen by Mr. Cross' advertisement in another column, enabling the manufacturers to furnish them at greatly reduced prices. Two of these heaters are being built for the California Steam Navigation Company, containing 80 2-inch brass tubes. Each of these tubes were imported from the East expressly for this purpose. We are informed by Messrs. Williams, Root & Neilson, of the Union Foundry, Sacramento, that they have made these feeders with most of the engines manufactured by them during the past two years, and that they have invariably given the best of satisfaction. The principle employed is simply that the exhaust steam traverses the length of the heater surrounding the water tubes, and thoroughly heats the water before its admission to the boiler. The gradual circulation of the water through the cluster of pipes favors the deposition of the sediment mechanically suspended in it, which can be readily removed by "blowing out" the water from the boiler.

"M. E.," a San Francisco correspondent of the *London Mining Journal*, exposes the forgery of a letter in that journal signed with the name of Joseph Organ, a Cornish miner residing in Humboldt county, Nev., with a view to enhancing the stock value of certain mining property in the market. The same correspondent continues: "I am justified in saying that ten square miles about the Caru Brea Hill, in Corowall, have produced more mineral profits than all this State (Nev.) will do from its mountain veins in 80,000 square miles of country, during the present generation." The Carn Brea has excelleut mines of tin and copper; it is a fine old heath-covered hill, traced with druidical circles half hidden in shrubbery, overlooking a peaceful, ancient ocean; and it is all in the blessed "old country." But every intelligent reader of the *Mining Journal* of course knows the above to be ridiculous. If any old country conservative capitalists should be induced thereby to tighten their grasp on the share they hold in the world's money power, contentedly, at from three to five per cent. per annum, Nevada can afford it. Correct intelligence will, however, in all cases produce the proper effect.

HUMBOLDT.—A monument is to be erected to Humboldt, in the New York Central Park. The centennial anniversary of his birthday will occur on September 14th next, and will be celebrated in connection with the erection of the monument.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

On Amalgamation of Silver Ores Without Roasting.

CHAS. H. AARON.

The effects ascribed to the action of electricity in Nolf's process, and in Mr. Scott's experiments, as described in his recent letter to the PRESS, can, in very many cases, be obtained as well, practically, without electricity as with it.

In the fall of 1867, I bought from the Silver Sprout Company, of Kearsarge District, a ton of their ore, which was part of a lot of five tons of crushed ore then lying in the mill, and which, by common pan process, yielded only $50 or $60 at most per ton. I took this ore to an arastra, and ground it to a fine pulp with water; then heated the pulp in an iron pan, and transferred it boiling hot to a wooden barrel. I then added a little salt, some scraps of copper, mercury, and one per cent. by weight of cuprie sulphate. The result, after twelve hours working in the barrel, was $106.43 in silver, and $13.42 in gold. The assay of this ore was not made very exactly, for want of necessary means, but was about $140 per ton in silver. I next worked, in the same way, 300 pounds of ore from the Cerro Gordo, and it yielded at the rate of $104.26 per ton, the fire assay giving $145 per ton. I afterward tried to work the same kind of ore in iron pans, and got only 60 per cent. of the fire assay, and *very* poor hullion. The hullion from the barrel was over .900 fine.

Mr. J. B. Low, then superintendent of the Kearsarge mine, having consulted me as to the best method of working his ore, in which he did not at first succeed, I advised him, as the best he could do under the circumstances, to "pickle" it with salt and bluestone in the vats, before putting it into the pans. He did so, using six pounds of bluestone to the ton, and steaming the mass by means of a hose and nozzle. Some forty tons were thus treated, which, when worked in the pans, gave $120 per ton, while that worked without "pickling" yielded but $72 per ton. The bullion, as was expected from iron pans, was very low, as the ore contained lead. I caused samples of ore from Hot Springs, in Mono County, to be sent to me, which ores have been pronounced "very rebellious," but which I find "truly loyal," at least very docile. I made the following experiments:

One thousand grains of the Diana ore, amalgamated in a porcelain-lined iron dish, with five per cent. of ferro-sulphate, and a like quantity of salt, and stirred with a copper spoon, yielded at the rate of $513 in silver, and $15 in gold per ton. The tailings, carefully saved with all the water, and dried, retained $25 per ton. The yield was therefore 95 per cent.; 1,000 grains of Comanche ore from the same district gave $538 per ton.

I also got samples of common mill ore from Virginia and Gold Hill. Of the latter, just as it came from the battery, and without further grinding, ten ounces were worked as before with a copper spoon, in a porcelain-lined dish, with two per cent. of salt, and one-fourth of one per cent. of bluestone, and yielded at the rate of $18.16 silver, and $5 gold per ton. This ore assayed $20.50 per ton in silver, and the tailings retained $3 per ton.

A piece of rich ore from the Comstock vein, treated similarly with three per cent. of bluestone and salt, gave readily $798 silver, and $591 gold per ton; the tailings retaining $80 per ton silver, and a little gold.

Ore from the Belmont mine, Cerro Gordo, treated with ten per cent. cuprie sulphate, and salt, gave 88 per cent. of fire assay.

Another sample from the same, assaying $330 per ton, treated with 7½ per cent. ferrie sulphate, and, of course, some salt, gave $316 per ton.

I made many experiments to reconcile the use of cuprie chloride with that of iron pans, by means of an ammoniacal solution; but, whether with iron or copper as a precipitant, could not get more than half the silver.

The substitution of ferro-sulphate for cuprie sulphate, in some of these experiments, may require explanation. It amounts, in fact, to the same thing; as in all those cases the ore itself contained cuprie oxide, or carbonate; and the reaction of ferrie chloride (ferro-sulphate and salt) produced cuprie and cupreous chlorides, which are the active agents in this process, according to the equation $2FeCl+3CuO=CuCl+Cu2Cl+Fe^2O$, or, in case of the carbonate, a similar reaction with evolution of CO^2.

In these cases of ores containing cuprie oxide or carbonate, there are various ways of producing the cupreous chloride, as well as the metallic copper required, which will readily suggest themselves to the properly qualified millman.

The reaction of ferro-chloride on cuprie oxide, with a similar one which takes place with ferro-chloride and plombic oxide, and again, with cuprie chloride and argentic oxide, led me to hope that the general law might be deduced therefrom, that, when a metal can be precipitated from a given solution by another metal, the oxide of the first would decompose a similar solution of the second; but experiment does not sustain this idea, for, though lead and zinc precipitate copper from the solution of its chlorides, yet the cuprie oxide does not decompose the solutions of the chlorides of lead or zinc: on the contrary, the plombic oxide, at least, decomposes both cuprie and cupreous, as well as ferro-chlorides in solution.

This is the reason why the Cerro Gordo ores, containing plombic oxide or carbonate, require so large a quantity of chemicals in this process, as compared with those of Virginia. These reactions are controlled by what I shall call the *balance of affinities.*

The artificially made argentic sulphide is acted on by both cuprie and cupreous chloride, either hot or cold, forming argentic chloride, which, in presence of copper, is reduced to silver; with reproduction of cupreous chloride; and this constant reproduction of the required reagent is the key to economy in this process, which, however, is not a new process, being identical in principle, and almost so in practice, with the Mexican process called "beneficio de fondo," in which the ore is amalgamated in a copper bottomed pot or pan, with "magistral" or bluestone and salt.

Many other compounds of silver, as well as the sulphide, are acted on by the cuprie chlorides, and, to a greater or less extent, by ferro, plombic and ammonia chlorides; but none of these approach the chlorides of copper in efficacy.

The ammoniacal solution of copper with salt, acts on argentic oxide and carbonate; but not on the sulphide.

The inference justly deducible from my experiments, seems to vindicate the assertion I made some time since, in your columns, that "the best process for amalgamating the ores of this valley, and of the Comstock vein, as well as many others, is nowhere in use in this country."

Californians have depended too much on "improved pans," and have attempted to do by brute force, that which must be done by the gentle persuasion of chemical affinity.

To those who believe that the salvation of gold and silver lies solely in pans; to those happily growing fewer every day, who still hug the delusion that "practical" knowledge which too often means stupid ignorance, is all a millman needs, and that scientific information is only fit for the laboratory chemist, I say ponder on the millions of treasure lying buried in the sink of the Carson, simply because our millmen did not know that the reactions of the "patio" or of the "fondo" could not be obtained in iron pans, but could in suitable vessels!

Let iron pans do their proper work of grinding if you will, for, as the Mexicans say, "mercury has no teeth;" but for amalgamators, at least for wet amalgamation, give us steam-heated wooden barrels or tubs, for pans of Ransome's stone, which can be made wherever they are wanted, and repaired with a bag of sand and a couple of bottles of solutions, instead of costly bolts and castings. Then, with copper as reducing agent, we shall hear no more of "iron amalgam," base metal, and such stuff.

The reduction of the ores by copper instead of iron, will give fine bullion always, and in most of our mines it can be had cheaper than pan castings. In many cases the ore itself will furnish it. Iron sponge can be made cheaply almost anywhere, and with that and a cupreous ore, we have all the copper we want.

[Written for the Mining and Scientific Press]

A New Method for Treating Sulphureted Ores.

A new method for treating ores, invented by Dr. Charles D. Williams, of St. Paul, Minnesota, in which the operation of desulphurizing and chloridizing such ores is performed simultaneously with the roasting of the same, has recently been experimented upon in a practical way in Colorado, and has demonstrated beyond a question of doubt, its entire success and utility in working sulphureted gold and silver ores. The *modus operandi* of this method is very simple, and without doubt will come into general use at an early day. The furnace in which the ores are treated is constructed on the reverberatory plan, and is built with ordinary brick, provided with a grate in the usual manner. It is erected upon a suitable foundation, and consists of two parallel vertical walls, which terminate in an arch at the top, the end inclosing walls being of the same material as of the sides, viz., ordinary brick. From the fire-box to the rear of the furnace are partition walls running parallel to the side walls, and which divide the passage for the products of combustion into three distinct flues, and they also serve as supports for the sole or hearth upon which the ores rest while being roasted. The flues or passages from the fire-box to the rear end of the hearth through which the heated products of combustion, arising from the fuel on the grate, pass, serve the purpose of heating the lower portion of the ores on the hearth. These flues at the rear end unite with a short vertical flue through which the heat ascends to the chamber containing the ore, where it is further utilized in heating the upper surface of the ore, and from the front end escapes through a pipe to the atmosphere. The plate comprising the bottom of the chamber rests upon a projection formed in the side walls of the furnace. Its lower surface is exposed to the action of the fire, while its upper surface is covered with soapstone, which serves the purpose of preventing injury to the metal, consequent upon the presence of the sulphur which is found in the ore. The metal arch comprising the roof of said chamber is also protected by soapstone blocks for a distance, vertically, of six inches, or as far up its sides as the ore may extend. In the top of the arch is a hole about five inches in diameter, through which the ore is fed to the desulphurizing chamber. At each end of the ore chamber doors are placed for the purpose of inserting a rod or shovel for agitating the ores during the operation of desulphurizing and chloridizing. At the side of this furnace is constructed a small furnace provided with a grate and doors for the insertion of fuel and removal of ashes. This furnace is divided into two compartments by means of an iron plate, the lower partition forming the fire-box, and the upper the chamber, in which chlorine gas is generated for use. The upper chamber is provided with a door through which is inserted a cup or basin of sufficient capacity to receive the gas generating vessel. This cup is filled partially with water, for the purpose of forming a bath for a glass vessel in which the chlorine gas is generated; said vessel is placed within the cup or basin, and is provided with an aperture in its top for the insertion of the materials from which the gas is generated, which aperture is provided with a stopper which screws tightly therein, so as to prevent the possibility of leakage. It is also provided with a pipe which is secured to its upper surface, and which communicates directly with the ore chamber in the first mentioned furnace, and is for the purpose of conducting gas generated in said vessel to said chamber. In the rear of the roasting chamber is a trough or chute for the purpose of conveying the contents of the chamber to an iron box or car.

THE OPERATION.

The furnace having been constructed as above described, the ore to be treated is passed through the aperture in the top of the ore chamber, and is evenly distributed over the sole or hearth. When the fire is kindled in the roasting furnace, and as the heated gases pass to the rear, they impinge against the bottom plate of the sole, thus imparting a portion of their heat to the lower portion of the ore. They then pass through the vertical flue at the rear of the chamber, and into the space in said chamber above the ore, and to the outlet in the front end or top of said chamber, thus imparting the remaining portion of the heat, or a large portion thereof, to the upper surface of the ore upon the hearth. Simultaneously with the kindling of the fire in the furnace, a fire is lighted in the gas generating furnace, in order that so soon as the ore commences to be heated, a stream of chlorine gas generated from muriatic acid and manganese, also sulphuric acid, (materials contained in the generator) shall commence passing into the space in the chamber, thus envolving the upper surface and filling the interstices between the parts or particles of ore upon the hearth. It being a well-known fact that chlorine gas is heavier than the products of combustion which arise from burning fuel, or the vapors which arise from the ore, while being roasted or treated in the furnace, it follows, as a consequence, the gas will remain in intimate contact with the ore upon the hearth, while the vapor from such ore, and gases from the fuel will be compelled to rise through a much heavier and more dense medium, and it is believed that, as a consequence, a very large portion, if not all the particles of metal which usually pass off with the vapor or fumes of the ore, will be arrested by the enveloping or intervening strata of gas, and be retained and mingled with the ore in the form of chlorides.

When the ore is desulphurized it is drawn from the furnace and put into barrel amalgamators, when water is introduced, which places the chloride of gold into a solution. A solution of the sulphate of iron is then introduced to precipitate the gold, and metallic iron is introduced to precipitate the silver and copper, if any. These chemicals thus introduced with the ore, are agitated by the barrel being set in motion and allowed to run for three hours; at the end of that time quicksilver is introduced, the barrel again set in motion and allowed to run six to eight hours, when it is washed out, retorted, and placed into a merchantable shape.

Parties wishing to learn more of this method are referred to Mr. M. R. Jefferds, of the North American Bureau of Mines, Chicago, Illinois. QUILP.

ALONG THE RAILROAD.—From W. H. M. we obtain the following notes:

At Truckee—a lively place—only Ellen's and Schaffer's sawmills were running last week, the rest having been at a standstill, at the time, on account of the heavy snows, which were from four to six feet deep at the summit. New buildings were still going up. The Railroad Company's roundhouse at Truckee, which burned down a short time ago, was a loss of $40,000; but the re-building is rapidly in progress.

At Wadsworth, building is likewise active; the Railroad Company are putting up a semi-circular round-house capable of holding twenty engines, a fine machine shop and blacksmith shop, all of which are to be completed in three months. The company is selling or renting lots here at good prices. Ties and other materials are seen flowing in a constant stream to the front, smoothly and systematically.

At Hot Springs, on the Humboldt Desert, the company has five men with a 12-horse-power engine employed boring for pure water, for the engines. They are down 612 feet, and have yet struck nothing; but Mr. T. G. McLeran, the superintendent, thinks, from the kind of clay brought up, that the prospects are good. Water in this desert would be a "big thing." The hot springs are a mile from the station; near them the sand is turned into stone. The water is very clear, and is used by the hands to wash their clothes in.

"White Cloud District," opposite Hot Springs Station, in Churchill County, thirty miles from Oreana Station, is receiving attention from some Santa Clara and San Francisco gentlemen just now; the White Cloud ledge being three to four feet in width, running east and west, and assaying in the hundreds. There are no houses within thirty miles. The Utica 10-stamp mill, owned by a large New York Company, is about thirty miles distant, situated two miles from the railroad. It is driven by water obtained from Humboldt Lake, which is controlled by the New York Company, and is twenty-five miles distant by the race. Their dam having "busted," the mill has been standing still for a few weeks. Ore is obtained from the mountain ranges near by.

Mechanical.

Belting.

We condense the following from "Belting Facts and Figures" in the *Journal of the Franklin Institute:*

"Pulleys covered with leather, with grain-side of band to pulley, will sustain *50 per cent. more resistance* than without the pulley being covered. Leather belts, grain-side to pulley, will drive 34 per cent. more than flesh-side to pulley; 48 per cent. more than rubber; 121 per cent. more than gutta percha; 180 per cent. more than canvas; consequently, the very best arrangement for belting is to use it with grain-side to pulley, and have the pulley covered with leather. The next best pulley is polished iron, especially for quick motions. Polished wood is next, and rough iron least, in value.

Leather, used with grain-side to pulley, will not only do more work, but last longer than if used with flesh to same. The fiber of the grain-side is more compact and fixed than that of the flesh, and more of its surface is constantly brought into contact with, or impinges on, the particles of the pulley. The two surfaces, that of the band and that of the pulley, should be made as smooth as possible: the more so the greater the contact surface, and the more the particles of each impinge on the other. The smoother the two surfaces, the less air will pass under the band, and between it and the pulley—the air preventing the contact of band with pulley—the greater this contact, the more machinery will the band drive. The more uneven the surface of band and pulley, the more strain will be necessary to prevent bands from slipping. What is lost by want of contact, must be made up by extra strain on the band, in order to make it drive the machinery required—oftentimes, if the band is laced, causing the lacings to break, the holes to tear out, or fastenings of whatever kind to give way.

Rubber, gutta percha, and canvas are the dearest articles to use for bands. Under the same circumstances, these will not last one-fourth as long as leather. When once they begin to give out, it is next to impossible to repair them. Wide bands cannot be used for or cut up into narrow ones, as leather can be. Leather belts may be used over and over again, and, when of no further value for belts, can be sold for other purposes. A rubber band, costing hundreds of dollars, may be spoiled in a few moments, by the lacing giving out, and the band being run off into the gearing, or by being caught in any manner so as to damage the edge, or by stoppage of either the driving or driven pulley. A few moments of quick motion or friction will roll off the gum from the canvas in such quantities as to spoil the hand. Leather belts may be torn or damaged, yet are easily repaired. It is otherwise with rubber. Rubber, gutta percha, and canvas belts will continue to stretch as long as in use, rendering it necessary to shorten them continually. Gum belts will not answer for 'cross' or 'half-cross' belts, for 'shifting' belts, 'cone pulleys,' or for any place where belts are liable to slip, as friction destroys them. A well-made leather band, if properly looked after, will last 12, 15 or 20 years, and yet be of value to work over into narrow belts."

Won't Wear Out.—M. Cazeau says that aluminum bronze,—which is an alloy of copper and aluminum containing eight to ten per cent. of the latter metal,—makes a covering to stair cases which, in a certain instance cited, was as good as new, after eleven months wear; while a previous covering of common bronze, of four times the thickness, upon the same stairs, was worn out in six weeks.

Glycerine.—As a lubricator for fine and delicate mechanisms, such as clocks, chronometers, etc., glycerine is found superior to the best waluut oil, and mixed with plumbago or some other material, to give it due consistency, may yet prove of value for the same purpose on heavier journals. *Artisan.*

Piston Packing.—McClintock's Patent Metallic Packing consists of rings made of alternate layers of linen and india-rubber cement, the whole being compressed in a powerful apparatus. The inner side of the ring has a thin copper lining, held firm in its place by claws, which double over and into the linen. The rings are dense, elastic, and possess all the qualities of good packing.—*London Mining Journal, Jan.* 30.

Cameron's Blowing Engine.—This new engine is expected to completely revolutionize that class of machinery. The Pittsburg *Commercial* says: "It is a well-understood fact that, in a steam engine, while the fly-wheel is making a uniform motion, the piston is irregular in its motion, moving rapidly in the middle of its stroke, and slow towards the ends. For driving revolving machinery, it is necessary that the engine shaft and fly-wheel should revolve uniformly, because they communicate the motion; but in a blowing engine, where the duty is taken directly from the *piston*, and where the fly-wheel gives the piston an irregular motion—accelerating it when it should be retarded, and retarding it when it should be accelerated—the absence of a fly-wheel is a necessary condition to a uniform blast. Taking advantage of this fact, Mr. Cameron dispenses with the fly-wheel and all its attendant paraphernalia. And the great advantage of this can be understood when we say that in the average of blowing engines there is enough of material in the fly-wheel alone to construct an engine from, on Mr. Cameron's principle, equal in capacity to the engine of which the fly-wheel only forms a part."

Double Bogies.—"An engine of this class has 12 wheels, 4 feet in diameter, arranged in two groups, each independent of the other, and driven by a pair of cylinders 18 inches in diameter, with 24-inch stroke. The fuel and water are carried on the engine, and the whole weight made available for grip on the rails. The bogies are free to swivel on their pins, and each can radiate independently of the other. The boiler has two barrels, each 13 feet long by 4 feet in diameter, and has altogether a total heating surface of 2,550 square feet. The tractive power of the engines, with a cylinder pressure of 100 pounds to the square inch, is equal to 33,400 pounds, equivalent to drawing a gross load of 390 tons up a grade of 200 feet to the mile, at a speed of 10 miles an hour. One of these engines is to be tried on the Central Pacific Railway."—*Am. Artisan.*

Boiler Deposits—A Few Hints.—The deposition of the carbonate of lime can be prevented by dissolving sal-ammoniac in the water; for that salt and the carbonate of lime are mutually decomposed, producing carbonate of ammonia and chloride of calcium, of which both are soluble in water, and the former is volatile. The deposition of sulphate of lime can be prevented by dissolving carbonate of soda in the water; the products being sulphate of soda and carbonate of lime, of which the former is soluble and the latter falls down in grains and does not adhere to the boiler.

The locomotive superintendent of the Chicago and Northwestern Railroad has succeeded in keeping the boilers under his charge free from scale by merely introducing, once in about three months, twelve pounds of pure zinc, in pieces weighing not more than one-half an ounce. The zinc wholly dissolves in from three to five months, and the inner surfaces of the boiler plates are then found covered with a thin coating of zinc.—*Am. Artisan.*

Heavy Modern Machinery.—A mass of metal of a ton weight was unknown before the Christian Era. Now those in cast iron up to 150 tons, in wrought iron to 40 tons, and in steel or bronze to 25 tons, are made in any desired form, and turned or bored with the most perfect accuracy. Two years ago I saw the largest lathe in England, which swings 22 feet, and will take in a shaft 45 feet long. Six months ago I saw one in this country which swings 30 feet, and will take in a shaft of 50 feet. There are planers which will plane iron 50 feet in length; others of 18 feet in width; others of 14 feet in hight, taking off metal shavings of two and a half inches in width and a quarter thick."—*Hon. W. J. McAlpine.*

Effect of Heating upon the Strength of Metals.—Sudden cooling from a high temperature tends to make most substances hard, stiff, and brittle; gradual cooling tends to make them soft and tough; and if often repeated or performed slowly from a very high temperature, to weaken them. Up to and beyond the fourteenth melting the resistance of cast iron to crushing increases; but the resistance to cross breaking reaches its maximum about the twelfth melting, and afterwards diminishes, from the metal becoming brittle and crystalline.

Welding Powder.—A composition recently patented in Belgium, is said to consist of 1,000 parts of iron filings, 500 parts of borax, 50 parts of balsam of copaiva or other resinous oil, with 75 parts of sal ammoniac. These ingredients are well mixed together, heated and pulverized.

Scientific Miscellany.

Ultra-Marine.

This beautiful blue pigment was originally prepared by simply pulverizing the mineral *lapis lazuli*, or sapphire, and was enormously expensive. It is now made artificially in large quantities; and what would have cost Raphael a thousand dollars, can now be purchased for a dime. It is now extensively used in the arts and manufactures. Prof. Charles A. Joy gives, in the March number of the *Journal of Applied Chemistry*, a description of this manufacture, and a history of its origin. In 1814, Tassaert, a French chemist, chanced to see a blue slag in the furnaces of a looking-glass factory. Upon analysis, its composition was found to be similar to that of the mineral aforesaid. Divers experiments were made at intervals from that time, by different chemists; and in 1822 Professor Gmelin, of Tubingen, succeeded in preparing a small quantity before the blow-pipe. In 1834 the process was tried on a manufacturing scale; in 1838, the Nuremburg Ultra-Marine Manufactory was founded. This is still the largest in existence, turning out more than two millions of pounds yearly. There are now in operation, in Europe, forty factories, which make, in the aggregate, some twenty million pounds yearly. The method of Prof. Gmelin is still, in all its essentials, the one employed; the different establishments, however,—each after its own fashion, which it keeps secret,—modifying this. It is as follows:

Soda lye, saturated with freshly-prepared silica, is mixed with pure alumina, obtained by precipitation from alum, in such proportions that to thirty-one parts of dry silica there will be twenty-six parts of dry alumina; the whole is evaporated to dryness, pulverized, and mixed with flowers of sulphur; to this is now added a mixture composed of equal parts of dry carbonate of soda and flowers of sulphur; the whole is thoroughly mixed, pressed into a crucible until the latter is full, when it is well covered and rapidly heated to glowing, so that fusion may take place before the sulphur is volatilized. It is then kept at a red heat for two hours. It is left covered until it is entirely cold, and again fused in porous crucibles. The blue mass is then pulverized, well leached, and washed.

The principal modifications of this method are the use of kaolin, of glauber salt, of sulphide of sodium, of alum, of charcoal powder, etc. The product from different manufactories, as exhibited at the Paris Exhibition of 1867, was far from being uniform. Some specimens of it were of a much finer shade of color than others. The simple crucible is now substituted by a reverberatory furnace, and the gigantic scale of its manufacture is one of the wonders of the age."

Graham on Hydrogen.—Prof. Graham, in his experiments on the occlusion of hydrogen by palladium and other metals, employed, besides the metallic cylinders of which we have before spoken, *wire* made of the same metals. This was, at least, the case in reference to palladium. The decrease of density in the cylinders which took place when they were charged, could not be easily measured. But a wire of the same was so markedly increased in length when charged, that the change was easily measured; and the density of the metal hydrogenium thence from calculated. The wire was stretched over a finely graduated surface and loaded with a moderate weight. It was then charged with hydrogen by making it the negative electrode of a small Bunsen's battery. The positive electrode was a thick platinum wire, placed by the side of the palladium wire, within a tall jar of dilute sulphuric acid. An exposure of an hour and a half charged it so that no farther addition to the amount afterwards took place. This was, in volume, 936 times that of the palladium. The increase in length, of the wire,—which was at the commencement nearly twenty-four inches long,—was about ⅜ inch. The density of hydrogenium was by this means found to be 1.708; and several experiments gave nearly similar results.

Secondary Batteries.—The *Journal of the Franklin Institute* condenses as follows such portion of a recent article by M. Gaston Planté, as is necessary to define what secondary batteries are:

"If two leaden plates, plunged into diluted sulphuric acid, are made terminals of a small galvanic battery, the one connected with the negative pole will have its surface rendered perfectly clean and metallic by the reducing action of the hydrogen there liberated, while the opposite plate, connected with the positive pole, will on the other hand be rapidly per-oxidized by the nascent oxygen set free at that point. If, then, the battery being disconnected, these two plates are put into communication, they will be in condition to develop a galvanic current opposite in its direction to that which was before passed through them by the battery. Thus the clean plate or former negative pole will tend to oxidize, decomposing the water of the pile and liberating hydrogen, while the per-oxidized plate will tend to absorb this hydrogen and suffer reduction. These actions are precisely such as are needed to produce a galvanic current, which experience proves to be of very intense character though short duration. Availing ourselves of this fact, it becomes possible to construct what, from its practical result, may be called a *condenser* for *dynamic electricity;* thus we may employ a small battery, during a notable time, to bring a number of connected lead plates into the condition above described, and then use for a few moments the intense current they are able to generate, thus obtaining a concentrated and intense momentary effect from a feeble but continued supply of force; not, as in the Leyden jar or other condenser of statical electricity, by an actual accumulation and storing up of the feeble force, but by the indirect method and through the intervention of the chemical reactions above described."

M. Planté used gutta percha troughs, each containing twenty plates of lead ten inches square, the odd numbers united by a copper strip at one end, and the even ones at the other; the trough being filled with a mixture of ten parts of water to one of sulphuric acid. Two such batteries could be so charged in a few minutes by three small Bunsen cells as to be capable of burning up a steel needle four inches long; and by placing each pair of plates in a separate trough, such intensity was secured that a steel wire six feet long could be instantly fused.

Photography and Fusil Oil.—The *Photographic News* speculates upon the light thrown by Prof. Tyndall's recent experiments upon certain phenomena in photography which have not heretofore been fully understood. The Professor says that actinic light decomposes the vapor of nitrate of amyl. Now fusil oil is the hydrated oxide of amyl. "Fusil oil is known to be a common impurity in ordinary alcohol, and its presence in collodion has long been regarded as conducive to fog, without any knowledge of the reason why. When fusil oil in collodion comes in contact with nitric acid, either free in the bath or liberated by action of free iodine in the collodion, a trace of nitrate of amyl may be formed, and this body, being present in the film when exposed to the action of light, and possibly decomposed, would, under some circumstances, yield as a product valerianic acid; or possibly intermediate bodies, analogous to acetone or aldehyde, might be formed, with a tendency to produce fog."

The Bursting of Water Bottles in Cold Weather.—When a bottle of water is frozen the bottle is usually burst. Hitherto this has been explained by the assertion that the water, on solidifying, suddenly expands. Mr. Barthélemy, one of the professors in the Lyceum of Pau, denies this explanation. In a memoir which he has written on the crystallization of water, he alleges that bursting of the bottle is caused by the disengagement of a large quantity of gas—hitherto in solution—by the water at the moment of its solidification. It is alleged, in support of this, that if a bottle of water be placed outside a window in frosty weather, it will be observed that the rupture takes place at the hottest side, viz., that next the window. *Scientific Opinion.*

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

For the Week Ending March 30.

88,267.—Machine for Fitting Felloes to Wheels.—Frederick H. Brinkkotter, Callahan's Ranch, Cal.:

I claim, 1. The hands B B, secured together on each end of the hub A, for retaining the clamping-frame, substantially as and for the purpose described.

2. The clamping-frame, consisting of the block C, having the longitudinal openings *d d d'* and cap D, together with the block G, yoke F, and screw E, the whole arranged substantially as above described.

3. The clamp K, with its arms *f f*, spring *h*, and rack *i*, for securing the spokes, substantially as herein described.

This device consists, first, in securing to the hub of the wheels on each side of the spokes a circular hand or ring, to which the mechanism for fitting the felloes may be attached; and secondly, in an apparatus for forcing the felloes to the proper position, and retaining the spokes where desired, so that the felloes can be marked previous to having the mortise bored, and also to correct any irregularity in the felloes after it has been mortised and fitted to spokes. This apparatus may be placed opposite to any spoke in the wheel by merely changing its position in the rings or bands around the hub, so that the felloe may be operated upon at any point necessary on its circumference or rim.

88,277.—Dumping Wagon.—John Craig, San Francisco, Cal.:

I claim, 1. The two longitudinal boards C C, hinged to the reaches, and swinging vertically to the center, for depositing the load beneath the wagon, substantially as described.

2. The longitudinal rods E E, angular metal plates *b b*, cranks *e e*, slotted bars F F, and staple I, the whole arranged substantially as and for the purpose described.

The object of this invention is to provide an improved dump wagon for the purpose of quickly unloading the dirt or other substance or material which it may contain, and it consists in arranging the floor or bottom of the wagon on hinges, so that by removing the supports it will turn and deposit the contents of the wagon beneath it. The supports are operated by levers in front of the wagon, and by simply disengaging these levers, which can be done by the teamster without dismounting from the wagon, the supporters are relieved so as to allow the floor to turn.

88,280.—Gang Plow.—Artemas Davidson, San Leandro, Cal. (Antedated March 20, 1869):

I claim, 1. In combination with the arms D D' and axes *a a'*, on the bar C, the clutch, consisting of the jaws F and G, on the wheel and axle, respectively, substantially as and for the purpose described.

2. The pin, or arm H, and the spring M, with the lever E, or equivalent device, for engaging and disengaging the clutch, substantially as described.

3. The rack J, constructed with the lip K, together with the holding-projection L, on the lever E, for retaining the jaws F and G in contact until the plows are raised, substantially as described.

4. The slotted arm D, with its set-screws *c c*, to raise and lower the axle *a*, and adjust the plows, substantially as and for the purpose herein described.

This invention relates to an improvement in gang-plows, whereby the labor of raising the plows and lowering them into the ground is performed by the horses, instead of by hand in the usual way, thus relieving the driver of the necessity of lifting the weight of two or more plows when he wishes to raise or lower them. This is accomplished by means of a coupling, one section of which is fixed to the axle and the other attached to the hub of the wheel. The fixed section is so arranged as to be moved upon the axle from side to side by means of a lever, which will cause them to engage and thus turn the axle and raise the plows.

88,298. — Device for Securing Bed-Clothes.—George Inwood, San Francisco, Cal.:

I claim the clamping-bar D, when held and operated by rods *b*, sliding in or upon the fixed rail or rails of the bedstead, and secured at the proper point by the set-screws *e*, substantially as and for the purpose herein set forth.

This device consists in an improved method of confining bed clothes so that they may not be thrown off while the occupant of the bed is asleep, and is especially serviceable on cribs and children's beds, or for invalids. It consists in simply placing an additional adjustable rail above the permanent bed rail and so arranging it that the bed clothes may be drawn under it, after which it is bound so as to hold them firmly, and is fixed by set screws or other device.

88,300.—Flea Powder.—Charles E. Jaycox, San Francisco, Cal.:

I claim the above ingredients enumerated, mixed and compounded in the manner and in about the proportions specified, substantially as and for the purpose herein described.

This invention provides an improved flea or insect powder which is unusually effective without disagreeable results, as it does not stain or injure any fabric. It is effective for a long time when used in the ordinary manner, and possesses an additional value from the fact that it can be used in washing so that the clothing will be thoroughly impregnated, and the wearer will thus be rendered, as it were, flea proof.

88,324.—Aerial Car.—William Morrow, San Francisco, Cal.:

I claim the combination and arrangement of the supply-pipes E, blowers B, and discharge-pipes F, substantially as and for the purpose forth.

This invention relates to a new mode of propelling aerial vessels, and it consists in providing the machine with two large fans or blowers which are driven by a light engine. The sides of the cases which are ordinarily left open, are closed in these blowers, and are connected by pipes with the front of the vessel, so that the air is drawn in through these pipes. Similar pipes serve for the ejection of the air at the stern of the vessel, so that it is propelled both by drawing in the air and by forcing it out. The steering apparatus may be so arranged as to elevate or depress the machine, as well as to turn it to either side.

88,368.—Spading Machine.—Francis C. Cone, San Francisco, Cal.

I claim, 1. The above-described machine-spade, when provided with an adjustable arm, E, and a cutting-edge, F, projecting in front of the blade G, substantially as set forth.

2. The revolving flanges B, having the tangential slots D, for determining the angle of the spades, substantially as herein described.

3. The notches, or shoulders *a a* in the sides of the slots D, for holding the spades, substantially as herein described.

This device consists in a series of flanges turning loosely on a bearing shaft, and each having a number of arms extending outward from its periphery. At the end of each arm is a spade or knife extending across at right angles to the travel of the machine. These spades are placed at such an angle as to enter the ground vertically as the flanges revolve, and the arms are so placed in and attached to the flanges, that the depth to which the spade enters the ground may be varied, the distances between their edges always remaining equal to the distance from the edge of the flange however it may be varied. The arm is so formed as to give a peculiar cutting edge which is extremely effective in breaking up the turf and clods. The body of the machine is also arranged that the angle at which it stands with reference to the earth may be varied. Weights may also be used to increase the affectiveness of the spades. This machine is intended for very rapid work, and was exhibited with a degree of success, by the inventor, at the Santa Clara County Fair, last fall.

88,384. — Acoustic Stage. — Troutman Groh, San Francisco, Cal.

I claim, 1. The above described floor, consisting of radiating timbers B B, diagonal timbers C C and D, and boards *d d*, when constructed substantially in the manner and for the purposes set forth.

2. In combination with the above claimed floor, the posts *a a*, blocks *c c*, intervening glasses *b b*, and the sounding-post E, arranged to support said floor, substantially as described.

This stage is intended principally for orchestras, to strengthen the tone of instruments used upon it, giving a facility for small orchestras to produce loud and harmonious music, It is calculated to give every instrument its full power and sweetness of tone. The stage is built as nearly as possible in accordance with the principles of the sounding board of stringed instruments, and is arranged to accord with the nature of the instruments by placing each one on the particular part of the stage suited to its tone or gamut, so that the vibrations of the instrument will be taken up by the stage and given to the audience in a full clear tone. The stage stands elevated an inch or two above the floor, upon blocks of wood which rest on blocks of flint glass. The floor of the stage rests upon wooden rails which pass diagonally across the top (being nearer together at one end than the other) under which are placed braces at one corner and the center passing across at right angles to them. Passing downward to the floor from the middle of the center brace is a sounding post which is some two or three inches longer than the supporting posts on the sides, causing the center of the stage to be higher than any other part. The floor of the stage is made of thin strips of dry spruce or other suitable wood, which are placed across the top of the stage diagonal to the wooden rails directly beneath them.

88,404. — Bottle-Corking Apparatus. — Giacomo Migliavacca, Napa, Cal. (Antedated March 19, 1869.)

I claim, 1. The vertically-moving block C, with the inclined operating-gauge *b*, and the parallel retaining-bars *c c'*, the whole constructed and arranged substantially as herein described.

2. The block D, with its tapering passage *e*, with the plunger E, the bent arm *g*, and the hand-lever F, substantially as and for the purpose described.

This machine consists of base having an upright standard attached to it near one end; upon this standard at a convenient height is attached a semi-circular block having a tapering hole through it, sufficiently large to admit a cork. A block of wood or metal is placed under the semi-circular block at the foot of the standard upon which the bottle to be corked is placed, when the block is moved up by a bar which moves back and forth in a slot in the base, and which has in its upper side an inclined plane. By moving this sliding bar towards the block, the bottle is raised up until its mouth strikes the block directly under the hole in the semi-circular block, when the cork, which has been placed in the hole in the semi-circular block is forced down and compressed into the neck of the bottle by a cone shaped pin, attached to the lower end of a bent arm, which is operated by a lever at the back of the upright standard.

88,460.—Machine for Cutting Screws.—John Dougherty, San Francisco, Cal.

I claim, 1. Arranging together, a screw-threading machine, in the manner described, the feed-screw P, carriage D, worm-wheel H, and worm-chuck G, each being constructed as shown and described.

2. The arrangement, on the two rotating shafts, of the loose gears X V, fast gears W, and head-stock S, as and for the purpose specified.

88,329.—Grape-Crusher and Stem-Separator.—Turner C. Purington, Lincoln, Cal.:

I claim, 1. The half-oval crusher C, attached to the shaft D by the arms E E, and imparting to it a reciprocating, or to-and-fro movement, whereby the grapes are deprived of their stems, and crushed beneath upon the grated bottom of the machine, substantially as described.

2. The combination and arrangement of the grated bottom B B B' B', with the crusher C, substantially as and for the purpose specified.

The complete report upon the Precious Metals at the Paris Exposition has been issued from the government printing office, and received by us from the Commissioner for California, W. P. Blake. It makes an exceedingly valuable book of 360 pages octavo.

New Commissioner of Patents.—S. S. Fisher, of Ohio, has been appointed by the President as Commissioner of Patents, to supersede the Hon. Elisha Foote, the present incumbent. The Senate will have to approve of the appointment before it can take effect.

New Inventions.

A Washington Invention.—Among the patents issued on the 24th inst. was one to I. A. Heald, the leader of the Washington brass band, for a machine for the manufacture of cigars. Mr. Heald had devoted a great portion of his time for the past ten or twelve years to the study of this matter, and has at last perfected a machine which will turn out from 1,500 to 2,000 cigars daily, and requires but a child to attend it. When we consider that there are 40[illegible],000 cigars smoked daily in the city of New York alone, the value of this labor-saving machine will be readily appreciated. *Washington Chronicle.*

Having seen the above machine in the process of manufacture, we must say it is one of the most ingenious inventions we have ever seen. Mr. Heald is an indomitable mechanic and inventor, and worthy of marked success.

Important Invention for Boot and Shoe Manufacturers.—Evan T. Rogers, of San Francisco, has invented a new system for marking counters and straps, and for all ornamental marking, for machine or hand-sewing, whereby he does away with patterns, rules and lines. By his method the impressions are made with one or two blows of a hammer or some other hard substance of the desired shape. There is a pad made of india rubber or soft spongy leather to prevent danger of injuring the leather by hammering the marker. He also makes a channel for the stick to drop in, so that the friction of wear cannot rub the face of the stitches; which makes his method valuable in the use of light tension on the machine, doing away with all contention between marker and operator, as the lines are all perfect. One man can perform more work than three by the old method—says Mr. Rogers. Mr. Rogers sailed for the East by the last steamer, with the intention of introducing his patent there. Boot and shoe manufacturers on this coast desiring information in relation to the patent, can procure the same by addressing John F. Bughee, pier 12½ Stewart street, San Francisco.

New Quartz Screens.—The Nevada *Gazette* alludes as follows to a new description of quartz mill screens, which are now being introduced into the mills about Grass Valley: "The holes, though very fine, are about half an inch in length, and cut in such a manner that there is a space of about one-sixteenth of an inch between them. There is thus no danger of the iron between the holes breaking out, as is sometimes the case with the ordinary screen, while the new style has full as much opening for the pulverized quartz to pass through. They are cheaper than the kind in ordinary use—as the labor of punching is less—and we think they will be found an improvement. In any event, they are worth a trial."

The "Eureka Hair" Factory at Dutch Flat.—Mr. N. W. Blanchard, the superintendant of this establishment, has been in San Francisco lately, making arrangements for some new machinery, etc., the building, and all on the ground, having been burned down some time ago. Eureka hair is the interior of the California soap plant, or *amala*, with which all prospectors are familiar. It is gathered by the hands of Chinamen, packed down hill as may be most convenient,—picked, cleansed and *kinked*, so as to give a spring to it. Much ingenuity, on the part of the originator, (a young upholsterer,) and some very meritorious manufacturing enterprise, deserving of a first class medal at least, have been shown in the inaugration of this business in the foothills. The Eureka hair is said to be the best substitute for curled hair in the market, and it is sold for one-fourth the price of the latter. Last year the company worked up 300 tons of the material, employing constantly 20 to 30 men. The *amala* grows plentifully on the plains, and up to an elevation of 4,000 to 5,000 feet, Dutch Flat being 3,500 feet up. The new factory is 70x140 feet, in dimensions, 1½ story high, and it will be in operation in two weeks.

Weekly Stock Circular.

By Associated Brokers of the S F. Stock and Exchange Board

SAN FRANCISCO, April 17, 1869.

Financial.

Our local money market is very stringent; more so than at any period for years. Some of our Savings and Loans institutions have ceased loaning on any security, having only funds enough on hand to meet the possible demands of depositors, showing a healthful condition of affairs. For some time past their spare balances have been readily taken at 1¼ per cent. per month. Independent of local causes this market has been considerably influenced by the extreme pressure at the East. Gold has been in such unusual demand there that California funds have been retained in New York, and, in many cases, duplicated and triplicated remittances made to that city. Our refineries are hard at work to supply the Branch Mint, which is kept going to the full extent of the bullion offered for coining. Our quotations are as follows: Bullion is in fair supply, gold bars ranging from 890@900; silver bars remain steady from par to 1¼ per cent. premium; currency bills on Atlantic cities pay 2%@2½ per cent. premium on gold; coin drafts 1 per cent. premium. There is nothing doing in telegraphic transfers, which are quotable at 3½ per cent premium; sterling exchange, 48¾d; commercial exchange, 49¼; Mexican dollars, 6½@7¼ per cent. premium; gold in New York, April 16th, 132⅞; legal tenders with us, 76¼ @77.

We are called upon, in this issue, to chronicle the most distressing and disastrous mining event which has ever occurred on this coast. On the morning of April 7th a destructive fire broke out in the Yellow Jacket mine, Gold Hill, Nevada, and quickly communicated itself to the Kentuck and Crown Point mines, the three having subterranean communications with each other. At the present writing the conflagration still continues, but the apertures have all been closed and powerful jets of steam are steadily forced down the shafts to extinguish the flames. Thirty-seven persons are known to have perished in the mines. Nearly all the bodies have been recovered by the extraordinary efforts of as gallant and noble-hearted men as live. It is, of course, impossible now to determine the amount of injury done to these mines, which have heretofore furnished a regular monthly supply of above $250,000 worth of bullion; but we have no doubt it is very great. The heat was intense, destroying the heavy timber work, calcining the rocks, rendering it loose and friable, and causing them to cave in many places. We do not feel at liberty to make any estimates or indulge in any guesses which must necessarily be vague and unreliable, but there is no doubt a vast amount of pecuniary damage must have been suffered. We learn that it has been determined to keep the mines closed until Monday, the 19th instant. Much caution should be used in making explorations after they are opened, and sufficient time should be given for complete ventilation before persons are sent down to encounter the deadly mephitic gases, especially in the lower levels.

City Stocks.

During the past week we note sales of Spring Valley Water stock at $66 50; Omnibus Railroad at $74, and Front Street, Mission and Ocean Railroad (preferred) at $20 per share. The Omnibus Railroad Co. disbursed a dividend of ½ per cent. on the 15th inst. The last previous dividend was paid in October, 1868. The usual quarterly dividend of the California Insurance Co. ($6 per share) for the first three months of the current year, is now payable. The Directors of the company publish the following notice to stockholders: "A special meeting of the stockholders of the California Insurance Company will be holden at the office of the company, on Wednesday, May 12, 1869, at the hour of 2 o'clock P.M. The object of said meeting is to increase the capital stock of the company from $200,000 to $300,000 in United States gold coin." On the 15th instant the Fireman's Fund Insurance Company disbursed a dividend of 1 per cent., or $3 per share, for the first quarter of the present year. The California Steam Navigation announce a dividend of 1 per cent. for the past month, payable on and after the 15th.

The Bank of California paid its usual monthly dividend of 1 per cent., amounting to $50,000, on the 15th inst.

At the semi-annual meeting of the Sacramento Savings Bank, held on the evening of the 13th inst., the following statement was rendered by the Secretary, comprising the business of the institution from the date of its organization, April 18, 1867, a period of two years:

Total amount of deposits received	$1,926,066 51
Total amount of dividends re-deposited	43 144 00
Total amount of deposits repaid	885,148 58
Total amount due depositors	1,114,072 06
Total amount of loans made	1,080,120 19
Total amount of loans repaid	140,609 37
Total amount of loans outstanding	939,519 82
Total amount of interest received	53,635 82
Total amount of entrance fees received	4,372 00
Total amount in reserve fund	7,147 29
Total amount of expenses, including office fixtures, books, stationery, Federal and other taxes, fuel, light, office rent and salaries	10,475 67
Total amount invested in U. S. Bonds, which have appreciated in value since they were purchased, $2,903	41,037 00
Total amount invested in building, lot and materials	11,708 28
Cash on hand	162,547 48
Total number of depositors	2,186
Total number of borrowers	442

Mining Share Market.

The mining share market has been tolerably active during the period under review, if we take into consideration the stringency of our local money market, and the present condition of the three Gold Hill mines a Yellow Jacket, Kentuck and Crown Point—work having been totally suspended in them since the dreadful calamity by fire. As soon as practicable, however, efforts will be made to ascertain the damage done in the lower drifts, when a more steady and definite market for the stocks of those mines may be looked for. Other portions of the Comstock lode show strong indications of paying bodies of ore in their lower levels, imparting considerable strength to a number of claims. Of White Pine stocks, we note sales as follows during the past week: 75 shares Mammoth, at $10 per share; 20 Chloride Consolidated, at $15; 50 Phœnix, at $2 50@3; 200 North American, Base Range, at $5@6; 5 Featherstone, at $9. With regard to the bullion product of the White Pine region, the *News* of the 10th, says: "From carefully reported statistics we have ascertained the total production of silver of the White Pine mines, from the month of May, 1868, until the 1st of January, 1869, to be $968,813 17, and from the two mills at Shermantown, from January 1st to April 1st—the Oasis, and Moore & Barker's—$297,023 14, making a total of $1,265,836 31. Moore & Barker's mill only ran one month, and we have no returns from the two mills at Hamilton. In ten months, then, the mines of Treasure Hill have produced the large sum of upward of one million three hundred thousand dollars. This large sum, for a new district, is remarkable. What other district, within the first year of its discovery, ever produced so much? Some few gudgeons, who did not find a million in the wild-cat they bought, grumble at their loss, and lay it to the district; and also, many papers, in their inexcusable ignorance, ask, Where is the bullion, if the mines are so rich? 'The proof of the pudding,' etc. is in the reports of the facts and figures. No district but one of incomparable wealth could have furnished the amount this did in the first year of its discovery, and under the disadvantages of its situation. The report of the month of March shows a constant increase in production. Since January, we report $297,023 14, and could we add, which we will in a few days, the results from the other mills, we would have an aggregate exceeding three hundred thousand for the three winter months, of which the greatest amount would be from the last. The large shipments of bullion now made, are proof of the productiveness of our mines, and fully answer the interrogatories of the California press. Our district is sending off more bullion than any other on the Pacific coast, excepting Virginia, and bids fair to surpass even that."

CHOLLAR-POTOSI—sold within a range of $132@177, then at $187, and closed at $185. During the week ending April 9th, 890 tons of ore were extracted, 320 tons coming from the Blue Wing stope and 570 from the New Tunnel. Within the past week the New Tunnel yielded a larger quantity and a better quality than was obtained the previous week. On the 13th inst., the various faces in the stopes had better ore and more of it, and in the winze, forty feet below the track floor, a drift was run northeast, and at the above date the entire face was in fair ore. In the operations from the new shaft the ground through which they are working is reported to be softer, and they have encountered clay, quartz, etc., but no metal. Tho mills, so far, show better returns than the previous mouth.

HALE & NORCROSS—opened at $87, declined to $35, and at the close realized $90. On the 13th inst., they reached the west wall with cross-cut No. 2, running through fourteen feet of ore, and cross-cut No. 3 carried six feet of ore. The quality of the ore in this cut is reported to be good, the lowest assay showing $41 67 to the ton, and the highest $104 18. In cross-cut No. 4 they are of the opinion that they have reached the west wall, having passed through six feet of ore. This drift is now in heavy clay, which does not resemble their west wall, and the drift will be continued further west to determine the fact. They have commenced to raise up in cross-cut No. 2, and will have to raise and sink twenty-six feet to finish the connection of the winze from the fourth to the fifth level at that point. The 175 level is said to look well, and is yielding the usual quantity of ore.

GOULD & CURRY—has been more freely dealt in, rising to $130, falling to $109, and at the close selling at $112. A telegram of the 14th instant states that assays from material found in the north end of the shaft, at a depth of about 1,156 feet, give respectively $50 32, $24 87, $32 30 and $35 43 per ton, showing an average of $35 73. The whole bottom of the shaft is reported looking well.

OPHIR—declined from $34 50@31 50, and closed at $34. On the 13th inst., the drift was in a distance of 177 feet, showing no favorable change....IMPERIAL dropped from $36 to $35, and at the close sold at $32. No change in the drifts from the lower levels....SAVAGE sold quite largely at a decline, receding from $71 50 to $66 50, and closing at $68 25.

YELLOW JACKET—was quite active at $60 50@56, closing at $59.....KENTUCK was rather inactive, selling at $245@260, and at the close obtaining $254.....CROWN POINT was comparatively quiet at $59@51, closing at $54 50. These three mines are still closed, on account of the fire in the lower levels. Another attempt to explore the lower levels will be made next week. To date, thirty-seven dead bodies of miners, who were at work at the time the fire broke out, have been taken from these mines.

We herewith present a condensed tabular statement relative to the product of bullion and dividends paid by the various mines on the Comstock Lode during the first three months of 1869, together with the assessements levied during the same time.

COMPANY.	Bullion Product.	Dividends.	Assessments.
Belcher			$31,200
Bullion			25,000
Crowa Point	$ 93,130		
Confidence	18,889		
Chollar-Potosi	225,861		
Daney			36,000
Empire Mill & Mining Co.	47,619		
Gould & Curry	7,500		
Gold Hill Q. M. & M. Co.	17,701		
Hale & Norcross	60,463		
Imperial	123,689		
Kentuck	201,088	$40,000	
Occidental*	120,000	20,000	
Overman	72,170		61,000
Segregated Belcher	4,839		
Savage	524,817	168,000	
Sierra Nevada	33,026		
Yellow Jacket*	450,000	360,000	
In 1869	$2,040,885	$588,000	$156,200
In 1868	1,764,046	310,000	556,900
In 1867	2,765,531	850,000	236 780
In 1866	2,291,883	90,000	474,600

* Estimated.

THE new "California Stock Exchange" board has been fully organized, and the Bank Exchange billiard room is being fitted up for their use. The officers are S. Heydenfeldt, President; T. C. Sanborn, Caller, and W. V. Wells, Secretary. All the current mining stocks will be dealt in, but it is understood that the specialities will be the best known mining properties of White Pine. There are 80 members.

VISITORS in the city wishing spectacles, mathematical or optical instruments, will do well to call at Muller's Emporium, 205 Montgomery street. *

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Alpha Cons., Storey co., Nev., div. $2	Pay. June 19, 18	S
Almaden, Nevada, March 17, $	April 26	May 3
Accident al, White Pine, March 30, 25c	April 30	May 30
Amanda Con., div. $6 pe. share	Payable April 7, 1869	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co., Nev., March 15, $1	April 17	May 3
Bullion, Storey co. Nev., March 2	Payable immediately	
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12 1868	
Coney, preferred Stock, div. 1½ per cent	March 10, 1869	
Cherokee Flat, Butte co, March 1, $3	April 3	April 20
Cordillera, Mex., March 16, $1	April 20	May 10*
Daniel Webster, White Pine	Annual Meeting May 10*	
Daney, Lyon co. Nev., March 8, $2.50	April 12	May 1
Enterprise, Nevada co., March 22, $1	April 22	May 8
Empire M. & M., Nev., dividend $6	Payable May 16, 1867	
Eureka, div. $10	Payable April 6, 1869	
El Tasie, Sonora, March 22, 50c	April 23	May 17
Folsom St. & Ft Pt. R. R March 13, $5	April 13	April 30
Gould & Curry, div. $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7.50	Payable July 13, 1868	
Golden Chariot, Idaho, div. $2 50	Payable March 20, 1869	
Golden Rule, Tuolumne co, div. 50c per sh	Pay April 7, 1869	
Glenwood, El Dorado co	Annual Meeting, April 30	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hope Gravel, Nevada co, April 6, $1	May 10	May 31
Imperial, Storey co., Nev., div.	Payable June 24, 1868	
Julia, Storey co, Nev, March 19, $2.50	April 22	May 10
Julia, Storey co., Nev.	Special Meet.ng, April 26	
Kentuck, div., $20 per share	Payable Jan 10, 1869	
Lyon M & M., El Dorado co., Mar 6, $1	April 12	April 26*
Mocking Bird, White Pine, April 15, 10c	May 20	June 7
Mt. Tenabo, Lander co, Jan. 23, 75c	April 2	April 27*
Maxwell, Amador co., Feb. 9, $1	March 13	April 1
Morning Star, Alpine co, March 5, $2	April 5	April 26
New Idria	Annual Meeting April 26	
North Star, dividend, $5	Payable Aug. 15, 1868	
North Amer. Wood P. Co., March 12, $1	April 14	May 1*
Occidental, div. $2	Payable March 2, 1869	
Overman, Storey co. Nev., March 20, $20	April 23	May 8
Pacific Unassessable, div.	Payable June 18, 1868	
Pacific, Con'l. Contra Costa co., Mar. 20, $4	Ap. 27	May 17*
Quail Hill, Calaveras co., April 2, $10	May 11	May 31
Sleeping Viva, Mex., April 15, $1	May 21	June 7*
South Virginia, White Pine	Annual Meeting April 24	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring—all, dividend $1	Payable Jan 4, 1869	
Star Creek, Nev., Feb 25, 10c	March 29	April 19*
Savage, Virginia, Nev. dividend, $4	Payable March 4, 1869	
Senator, Storey co., Nev., March 26, 50c	May 1	May 28*
Silver Sprout, Inyo co, March 25, 50c	May 7	May 28*
San Buena Ventura	Annual Meeting April 19	
Sierra Nevada, Storey co., March 15, $4	April 17	May 3
Sierra, Douglass co, Nev., March 25, $8	April 28	May 14
Treasure Trove, Lander co., Feb. 15, 20c	March 21	April 12
Troy Ledge, White Pine, March 16, 15c	April 23	May 24*
Troy Ledge, White Pine	Annual Meeting, April 19	
White Pine Water, Lander co., April 14, $50	May 22	June 19
Williamsville, White Pine	Annual Meeting May 18*	
White Pine Smelting Co.	Annual Meeting April 20	
Virginia Cons., Storey co., April 14, $1.50	May 19	June 5
Virginia & G. H. Water Co.	Dividend, payable April 16, 1869	
Virginia, No. 2	Annual Meeting, April 19	
Yellow Jacket, div., $5	Payable March 15, 1869	

Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, April 16, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 87	88
United States Bonds, 5 20s, 1864	87½	88½
United States Bonds, 5 20s, 1862	89	90
Legal Tender Notes	76¼	77
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	83	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Bonds, 7s, 1862	90	91
San Francisco City and Co. Bonds, 7s, 1863	90	91
San Francisco City and Co. Bonds, 7s, 1864	90	91
San Francisco City and Co. Bonds, 7s, 1865	90	91
San Francisco City and Co. Judg. Bds. 7s, 1863	90	91
San Francisco City and Co. Judg. Bds. 7s, 1864	90	91
Sacramento City Bonds	30	91
Sacramento County Bonds, 6s	70	91
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	80	85
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co.	98	—
Spring Valley Water Co.	66	66½
Stato Telegraph Co.	26	—
GAS COMPANIES		
San Francisco Gas Co.	77	—
Sacramento Gas Co.	—	55
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	73½	—
Central Railroad	40	—
North Beach and Mission Railroad	74	76
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	160
People's Insurance Company	100	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co.	98	100
Pacific Insurance Co.	126	127
Merchants' Mutual Marine Insurance Co.	500	520
California Insurance Co.	1300	1400
Union Insurance Co.	100	101
Home Mutual Insurance Co.	19½	20
Occidental Insurance Co.	85	90
MINING STOCKS—WASHOE DISTRICT.		
Alpha	25	25½
Baltimore American	—	—
Belcher	18	18¼
Bullion, G. H.	10	11
Crown Point	54¾	55
Gole (Va.)	—	—
Confidence	31	34
Consolidated Virginia	7	9
Chollar-Potosi	185	186
Daney	3½	5
Exchequer	13	15
Empire Mill and Mining Co.	52	60
Gould & Curry	111	112
Gold Hill Quartz	32¾	—
Hale & Norcross	90	90½
Imperial	72	72½
Julia	—	3
Justice and Independent	—	10
Kentuck	251	255
Lady Bryan	13	13½
American	37	38
Occidental	27	27½
Ophir	34	34
Overman	52½	53
Segregated Belcher	8	8½
Savage	68	68½
Sierra Nevada	60	64
Union	—	—
United States	—	—
Yellow Jacket	58½	59
MISCELLANEOUS MINING STOCKS.		
Amador (California)	285	290
Aurora, White Pine	—	15
Eureka, (California)	—	240
Golden Chariot (Idaho)	42	45
Silver Cord (Idaho)	10	11
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocotillo, White Pine	—	—

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, April 16, 1869.

Flour, Extra, ₱ bbl	$6 25	@	$6 50
Do. Superfine	4 25	@	4 50
Corn Meal, ₱ 100 lbs	2 25	@	2 50
Wheat, ₱ 100 lbs	1 40	@	1 60
Oats, ₱ 100 lbs	1 75	@	2 05
Barley, ₱ 100 lbs	1 75	@	2 10
Beans, ₱ 100 lbs	6 00	@	7 00
Potatoes, ₱ 100 lbs	75	@	1 00
Hay ₱ ton	10 00	@	16 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	11	@	12
Sheep, on foot	3 00	@	3 25
Hogs, on foot, ₱ lb	5	@	7
Hogs, dressed, ₱ lb	9	@	10
GROCERIES, ETC.			
Sugar, crushed, ₱ lb	—	@	15¾
Do. China	10	@	12
Coffee, Costa Rica, ₱ lb	18	@	19
Do. Rio	17½	@	18
Tea, Japan, ₱ lb	75	@	90
Do Green	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	10
China Rice, ₱ lb	6	@	7
Coal Oil, ₱ gallon	48	@	50
Candles, ₱ lb	15	@	18
Ranch Butter, ₱ lb	35	@	36
Isthmus Butter, ₱ lb	33	@	36
Cheese, California, ₱ lb	15	@	18
Eggs, ₱ dozen	25	@	35
Lard, ₱ lb	15	@	16
Ham and Bacon, ₱ lb	14	@	16
Shoulders, ₱ lb	7	@	8
Retail Prices.			
Butter, California, fresh, ₱ lb	45	@	50
Do. Roll, ₱ lb	30	@	—
do. Oregon, ₱ lb	20	@	25
do. New York, ₱ lb	35	@	45
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	45	@	50
Lard, ₱ lb	16	@	18
Hams and Bacon, ₱ lb	23	@	25
Cranberries, ₱ gallon	1 00	@	1 26
Potatoes, ₱ lb	1½	@	2
Potatoes, Sweet, ₱ lb	3	@	5
Tomatoes, ₱ lb	3	@	—
Onions, ₱ lb	3	@	—
Apples, No. 1, ₱ lb	4	@	6
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	10	@	12
Peaches, dried, ₱ lb	10	@	12
Oranges, ₱ dozen	75	@	—
Lemons, ₱ dozen	50	@	75
Chickens, apiece	—	@	75
Turkeys, ₱ lb	26	@	30
Soap, Pale and C. G.	7	@	12
Soap, Castile, ₱ lb	21	@	22½

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, April 16, 1869.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.

Scotch and English Pig iron ₱ ton	$ —	@	$45 00
White Pine ₱ ton	36 00	@	37 00
Refined Bar, bad assortment ₱ lb	03	@	—
Refined Bar, good assortment, ₱ lb	04	@	—
Boiler, No. 1 to 4	04½	@	—
Plate, No. 5 to 9	—	@	04½
Sheet, No. 10 to 13	04½	@	6
Sheet, No. 14 to 20	05	@	6¼
Sheet, No. 24 to 27	05	@	6½

COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	—	@	26
Sheathing, Yellow	—	@	21
Sheathing, Old Yellow	—	@	11
Bolts	—	@	22
Composition Nails	—	@	22

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@	—
Plates, I C Charcoal	—	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs ₱ lb	—	@	35

STEEL.—English Cast Steel, ₱ lb — @ 15

QUICKSILVER.—₱ lb — 55 @ 60

LEAD.—Pig, ₱ lb — 7½ @ 8

Sheet	—	@	—
Pipe	—	@	—
Bar	—	@	9¼

ZINC—Sheets, ₱ lb — 10½ @ 11

BORAX.—California, ₱ lb — 35 @ 38

TAX RATES.—The rate of city and county taxes for San Francisco, for the coming fiscal year, have been fixed by the Board of Supervisors as follows: Rate of local tax $2.11½, State tax 97 cents; total for State, county and municipal, $3.08½ on each $100 of assessed valuation. The rate of taxation for the past four years has been as follows, beginning with 1865-6: $3.12; $3.10; $3.00; $3.05; coming year $3.08½. The State tax has been decreased in that time from $1.15 to 97 cents; while the city and county tax has been increased from $1.97 to $2.11½. A careful analysis of the apportionments of the city tax for the coming and ensuing year, as given in the *Bulletin*, shows that the tendency is to an increase of general expenses in a ratio greater than the increase of property values. This fact, taken in connection with the rapid increase in the value of real estate, and of wealth generally, in this city, makes a poor showing for the management of our municipal affairs.

FIFTY POUNDS OF NITRO-GLYCERINE.—The Titusville (Pa.) *Herald* says that the above quantity of this article was exploded in a single blast at one of the oil wells recently. The operation was a success.

THE INVENTOR'S AND MANUFACTURER'S GUIDE.—This is another New York inventor's journal, which comes to us enlarged and filled with interesting matter. It is published by Saltiel & Co., No. 37 Park Row.

LEXINGTON, April 3, 1869.

DEAR SIRS—The Letters Patent have just come to hand. For the prompt and business-like manner with which you have put the matter through, please accept my thanks. GEO. W. TEASDALE.

To DEWEY & Co., Publishers M. & S. Press.

THE PRESS is one of the most valuable and instructive papers published in the United States, and every miner, millman, machinist and foundryman should be a subscriber. The information to be derived from its columns is worth many fold times the subscription.—*Grass Valley National.*

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

From the *Chronicle*, April 3d:

The Pennsylvania.—The Peunsylvanians have been drifting alongside of their ledge, and have run in about 15 feet on both sides of the tunnel. The ledge appears to be widening and becoming more solid, and the ore is improving at every step.

Miner, April 3d:

Globe.—The mail brings uews of the success of Mr. Winchester in procuring means to prosecnte the work. Judge Clark, Superintendent, took an average sample of a feeder from the main lode, cut some distance back in the tunnel, and procured an assay resulting in $26.46 per ton. At the same time assays of ore selected from a tunnel went over $250 per ton.

AMADOR COUNTY.

Ledger, April 10th:

The Casco Mine.—The new hoisting works are now in operation. The new engine is a most excellent one, and the other machinery of the most substantial character.

Eureka.—For March, the Eureka mine, owned by the Amador Mining Co., at Sutter Creek, cleaned up a little over $64,000.

Coney & Bigelow.—The new shaft is now down nearly 50 feet, and tho rock is looking splendid. Work is being vigorously prosecuted.

Hinckley Mine.—Work has been commenced again. Heretofore, some very rich rock has been taken from this shaft.

CALAVERAS COUNTY.

Chronicle, April 10th:

Railroad Flat.—Since the sale of a half interest in the Petticoat, the utmost energy has been evinced in operations upon the mine. The new shaft has been sunk to the bottom of the old level, a distance of 100 ft., and will be continued to twice that. Ore is being extracted, keeping the mill constantly employed....Chapman, Hopper & Co. at 30 ft. found water in such abundance as to prevent further developments without the aid of machinery. As the ore taken from the prospect shaft paid $50 per ton, they commenced at the water level and are stoping out the entire lead to the surface. They now have out 160 tons of rock. It is the intention to erect machinery as soon as the rock in sight is crushed.... Sauderson, Gay & Co. are taking out ore which prospects exceedingly well. Their previous crushing yielded at the rate of $57 per ton, unassorted. The lead is narrow, but well defined....The Lewis Brothers, on Wet Gulch, have reached the water level and been compelled to suspend operations in their shaft. They have commenced a tunnel which will tap the vein at a depth of 150 ft....Gamble & Co. are urging operations with cheering prospects....The Balmoral and Chemisette are dormant.... Smart's mill will commence crushing within a few days.

Lower Rich Gulch.—The extensive hoisting in process of erection upon the Palomo mine, will be completed in about six weeks. Work is being pushed rapidly, and by the time the machinery arrives the buildings will be in readiness.

San Andreas correspondence of same:

Pioneer.—This company have 100 tons of rock out which will yield from $10 to $20 per ton. Thorn & Co. contemplate putting a 10-stamp mill on this mine to be run by water power.

Whisky Slide ditto: Things are going slowly here. Water is scarce; miners can only work part of the time. Some are doing well, others only making a living. Mr. Harper cleared $10 per day for the actual labor done on his claim at Wet Gulch; Jameson & Co., on Whisky Slide Gulch, work two hours per day, and realize small wages. The Soger Co., on Horse Power Gulch, have been making an average of $7 per day. The majority of the miners will ground sluice as long as the water holds out, and not lose time in cleaning up.

EL DORADO COUNTY.

Placerville *Democrat*, April 10th:

Reservoir Hill.—We have mentioned the sale of Judge Freyer's claim for $3,600. On the 6th inst. a two third interest in the same claim was sold to Slater & Hancock for $4,200.

Georgetown.—A correspondent sends us the following: Halls, Beebe & Co., of Jones' Hill, five miles from Georgetown, with a 5-stamp mill, in three weeks have taken out over $5,000. The Eureka, owned by Keefer & Co., will soon put up an 8-stamp mill. They have plenty of rock that prospects well. A. T. Wilton, of Mt. Gregory, picked up a piece the other day worth about $100, free gold. Mines are on the improve, with flattering prospects.

INYO COUNTY.

Los Angeles *News*, April 3d:

Lone Pine.—The Union mine, at a depth of 300 feet, has developed a lode 20 feet wide, of argentiferous galena, which yields $160 of pure silver per ton. The mill of Louis Wolfskill, of this city, which is to have five stamps, will be in running order by the 10th day of June, and have a crushing capacity of 15 tons daily. The Belcher mill is now crushing ore that yields about $500 in silver every 24 hours.

In the Cerro Gordo mines proper there are about 400 miners at work, all of whom appear to be well pleased with their prospects.

Mr. L. Laskie, of this city, who owns 1,000 feet in the San Bonita mine in Lone Pine District, has permitted us to make the following extract from a letter recently received by him:

"Enclosed I send the silver that I got out of twelve ounces of the San Bonita rock. All the lodes that have had work done on them since you left, improve as they go down, so I think you had better return as soon as you can. I had an assay of the Queen City rock made by Mr. Elder; it assayed $316 per ton, and is still getting better."

Mr. L. exhibited to us a piece of silver as large as a bullet, that came from twelve ounces of rock taken from the San Bonita lode, sixty feet from the surface, where the lode shows a width of four feet, and proves by assay to contain $2,140 to the ton. The Queen City, a short distance from the former, has a lode four feet three inches wide.

KERN COUNTY.

Havilah *Courier*, April 6th: The McKeadney mill is hammering away....The St John mine, at Sageland, owned by Thomas Walker and others, is in blast again. It pays as well as ever.

LOS ANGELES COUNTY.

News, April 3d:

Soledad.—By the arrival of stage from Soledad, we were the recipient of some ore from the new discovery of Dr. Columbo, made about two or three weeks ago. This ore is gold and extremely rich, the vein being about four feet wide, with well-defined casings.

NEVADA COUNTY.

Transcript, April 8th:

Rich Strike.—An old miner yesterday brought into town a specimen of quartz weighing three pounds, containing about $25 in fine gold. It was obtained from a ledge in this township, the location of which he refused to give.

Same of 9th:

Deer Creek.—A company of men are washing away the site of the Old Eagle sawmill on Deer Creek.

Same of 10th:

Little York.—The Little York Hydraulic Mining Co. are taking out, after every 10 days' run, from $3,000 to $4,000. Last month they cleaned a little over $10,000. At other places in Little York township the miners are doing well.

Gazette, April 6th:

Hunt's Hill.—Tucker & Williams, are doing a heavy hydraulic business, and also the McLeod Co. adjoining. The former company employ 10 men, and the latter six.

Quaker Hill.—Jacobs & Sargent are running their extensive hydraulic claims every day, having adopted the Monitor pipes, and are using 650 inches of water. The claims are paying on an average $300 a day with 14 men.

Sale of Claims.—John C. Cookerly has sold one-half of the claims on Woolsey Cañon, near Moore's Flat, to John Caldwell for $3,250.

Same of 7th:

There is a good demand for laboring men at $3 a day, gold coin. Good miners, who understand drifting and working hydraulic claims, can get steady work at Scott's Flat. Quaker Hill, Hunt's Hill and Gougeye. Fifty good men are wanted.

Same of 10th:

Red Diamond.—Oscar Maltman, who recently examined the Red Diamond claims, states that the surface of the entire claims will pay a good profit for hydraulicing, and that all the ground within ten feet of the bedrock will pay well for drifting and milling. As soon as the surface is worked off, the company will build a mill. From a pan of gravel 10 ft. from the bedrock Mr. M. realized $3.75. Strauahan, on Barrington Hill, near the above claims, cleaned up last week, from eight days' run, $1,300. The Stevens claims, on the opposite side of the ridge, are being worked with good results. The mining prospects from Scott's Flat to the Cascades are better than they have been before.

Grass Valley *Union*, April 4th:

Union Hill.—This mine is improving daily in appearance, in the new shaft. The clean up for last month was $6,000.

Same of 7th:

The Idaho.—The Idaho Mining Co. declare dividends on the first Monday of each month. For March the receipts in free gold, not including any from sulphurets, amounted to $30,428.35. For the month the company declared a dividend of $15,500 and carried over a surplus of $14,200.

Eureka.—Yesterday the mine made a shipment of $23,000 worth of gold bars. This was the result of two week's run, and is exclusive of gold contained in sulphurets. Taking the free gold yield and the sulphurets gold together, the two weeks' run shows about $30,000.

Same of 9th:

Harterey.—This mine, on Wolfe Creek, north of Allison Ranch, is being worked by John Ford & Co. under a lease. We yesterday saw a nice lot of gold just cleaned up. The value is about $3,000, the proceeds from 115 tons of rock.

William Penn.—This mine is now yielding excellent rock—recent crushings having paid as high as $60 per load.

Young Pines.—The Young Pines mine joins the Wm. Penn. Very fine quartz has been found on the croppings, and the company will commence taking out rock as soon as the rains are over.

Grass Valley *National*, April 6th:

North Star.—We are informed by J. H. Crossman, the Superintendent, that on Thursday the company will commence putting in their new 16-inch pump.

Howard Hill.—The Lucky mine, on Howard Hill, cleaned up yesterday $2,400, the result of eight days run with 10 stamps.

Jone's Bar.—Fogarty & Co. have purchased the 10-stamp mill of J. J. Collins, of Brown's Hill, and are moving it to Jones' Bar. The cement, which prospects well, lies in the bed of the river and is covered with five feet of tailings. The pay streak is from one to ten feet in thickness.

Black & Young have purchased one-half of the celebrated Barbary mine, at Eureka.

Same of 8th:

Empire Co.—The Empire Co. started work on Monday on the Rich Hill ledge, 1,500 ft. east of the present shaft of the Empire. They are cleaning out the old tunnel, and intend to sink a shaft, put up a pumping engine, and erect hoisting works.

PLUMAS COUNTY.

Quincy *National*, April 3d:

Mill Creek.—The miners are all busy at work, have plenty of water, and are doing well.

East Branch.—A gentleman informs us that the miners in that vicinity are all busy at work and have an abundance of water for mining purposes, but have made no clean-ups yet.

La Porte *Union*, April 3d: J. P. Denoon, in the Redding claims near the line of the Gem Co's ground at Gibsonville, has struck rich pay dirt. The Gem has not been worked for several years, and Denoon has purchased the claims for $1,000.

A company was organized in this town a few days since for the purpose of opening a set of claims in Bald Mountain. This company means business. Work will be commenced immediately.

SIERRA COUNTY.

Downieville *Messenger*, April 3d: The Fir Cap Co. last week struck rich pay. Messrs. Alleman and Burgess exhibited 28 ounces of gold taken from about five car loads of gravel, bedrock, etc. The largest, a piece of pure gold, weighed eight ounces.

SISKIYOU COUNTY.

Yreka *Union*, April 3d:

Brady & Co.—Brady & Smith have struck a stratum of cement in their claims, in the northwest suburb of Yreka, that is just "lousy" with gold.

Large Nugget.—Robert Pitt took from his claim on Portuguese Flat, recently, a nugget worth $300.

Lash & Co., of Humbug, commenced this week to crush a lot of rock from the Knapp ledge.

Cottonwood.—Frank Merritt and others own a quartz ledge near Cottonwood, which they are about to commence to prospect again. The ledge is about three feet in thickness, and gold can be seen with the naked eye in quartz from any part of it.

SHASTA COUNTY.

Courier, April 10th:

Fine Specimen.—Last Saturday, John Wilson exhibited a piece of gold weighing $75, found in his claim on Salt Creek.

Rich.—Blair & Banghart, after working four days in their newly-discovered claim on Brandy Creek, cleaned up twenty ounces of gold.

SONOMA COUNTY.

Petaluma *Journal and Argus*, April 8th:

Sonoma Mines.—The numerous claims are being diligently prospected, but the result has not shown any well-defined ledge. Some of the croppings show unmistakable signs of silver, but we must see more decided evidence before we pronounce the district rich in precious metal.

Since writing the above we are informed that the Buckeye, or Davis Co. have organized, have purchased mining tools, have broken ground for a shaft and tunnel, and intend pushing the work forward as rapidly as possible. Nature has already sunk a shaft to the depth of 100 feet. The ledge is over 40 feet wide, and nearly exposed by the action of the water. The casings on the north side of the ledge can be distinctly seen.

TUOLUMNE COUNTY.

The Golden Rule Co. have declared a dividend of 50 cents per share, aggregating $1,500. The ore has averaged from $5 to $10 per ton, and yet the company have run a tunnel 500 feet, erected a 15-stamp mill at a cost of $22,000, and accumulated a reserve fund of $13,000 in bank. New hoisting works are now being erected, and general repairs being made.

TRINITY COUNTY.

Journal, April 10th:

Sale of Mining Claim.—We are informed that last week B. Murphy sold his mining claim on Evan's Bar, to P McGrath, for the sum of $2,000.

Letter from "Pest House:" "McGillivray's ditch is full of water, night and day, and every drop in use. H. C. Wilt says his claim will pay better than last season, and then it was admitted to be the best claim in this section. He has not cleaned up yet. Below him, on the same bar, Brown & Barber are opening a new claim with fair prospects. The claim in which I am at work (the Humbug) is on Portuguese Flat. We have not done enough work as yet, to know how our diggings will pay. The Blow-hard claim, on Gas Point, is all that it has been represented—a run of eleven days paying $600. From what I hear there is not one claim in the Red Hill country but what is yielding largely."

YUBA COUNTY.

Appeal, April 13th:

The Pennsylvania.—This company has got its new 12-inch pump in place, and expects to commence crushing to-morrow. We are told that the mine now presents a flattering aspect. The stamps were in operation eight days in the month of March, and about $1,800 was the result.

COLORADO.

Central City *Herald*, March 31st:

Mill City.—The deepest shaft on the Young America is in poor ore, but the miners think the vein is improving in character In the vicinity of the Young America Mr. Cook has got a good lode which he has named the Capital. The crevice is three feet wide, and has a vein of quartz sulphurets and galena nearly as wide as the crevice. The galena is remarkably pure. Prof. Stewart has found it to contain 40 per cent. of lead. Select specimens assay as high as $700 per ton....Mr. Snyder has returned from the East. He kept two arastras running pretty constantly last summer, on ore from the Culbro lode, which yielded enough gold to pay all his mining expenses of the past summer.

Trail Creek.—Judge Colvin, agent for the Freeland Co., proposes to mine on the Freeland lode, and will use stamps and pans in treating the ore.

Hukell Gulch.—J. W. Thackaray, agent of the Fairmount G. M. Co., is going to work. He will use arastras.

Denver *News*, March 31st: We saw at the express office last evening a monster silver button, boxed and prepared for shipment to the East. Its length and width was about two feet by three, weight 535 pounds, troy, and value in currency $10,200. It was from the works of the Brown S. M. Co., the result of about 2½ weeks' run.

Georgetown *Miner*, March 25th: The building for the crushing and dressing works is being completed as rapidly as circumstances will permit. The machinery is on the route here, and will probably arrive by the time the building is ready.

Stewart has his amalgamating works in operation, and plenty of ore on hand. He is testing the same ore both by raw amalgamation and chloridizing.

We learn that several very fine lodes have been recently discovered on Sherman Mountain, below the Snowdrift.

A lot of Mendota ore is being taken to Stewart's works for smelting.

The mineral vein in the Chit lode has increased to six inches in width.

IDAHO.

Owyhee *Avalanche* April 3d:

Ida Ellmore.—This mill started up on

Thursday. The mill has never been in as good running conditiou, and the mine has never looked so well.

Silver City *Tidal Wave* April 2d:

Walsh & Warnker are making a good run of Astor ore in Black's mill, at Flint. The yield, as we are informed, is over $200 per ton.

The Golden Chariot mine, a short time since, was giving evidence of improvement in the 250 foot level. We now have the assurance that it has more than realized its most extravagant indications, the ledge is not only wider, but richer in the south drift than at any point yet explored. The workmen in the Ida Ellmore give similar encouraging accounts of the prospects of that mine.

Prof. Ashburner's recent report on the Golden Chariot mine is published in the same journal. The conclusion is as follows: "To conclude, therefore, I would give it as my opinion, that this property possesses great present and prospective value. That there are in sight, and thoroughly developed, about 1,200 tons of ore between the first and second levels, which it appears safe to assume will yield an average of $150 per ton, or $180,000. That between the second and third levels, the vein is developed on two sides, and partially on the third, by the shafts and drifts, and that so far as explored, there appears every indication that this portion of the mine will furnish at least 4,000 tons of ore, the average value of which there is now no reason to suppose will prove less than that taken from above."

The Boise City *Statesman* says: There is a scarcity of miners in Alturas County. The Wide West and other good paying mines are idle for want of men to take out the quartz. The Monarch Co. have bought the Farnham mill. South Boise is exhibiting some superior specimens in Boise City.

Salmon River Mines.—Leesburg correspondence of Montana *Post:* At the head of Nappias Creek, Mulky, Henady & Co. have a horse whim erected for hoisting gravel, and are doing a good business. Next below them Sanborn & Co. are drifting, hoisting, preparing sluices, drains, etc. Discovery Co's ground immediately below, which paid such handsome profits last year, will be worked by the same company this season. They have also two bars in other localities, which they will continue to work. It is a strong company and well managed. Below are the famous Douglass claims, which have paid well for two seasons and have as good promise for the future. These claims are near the mouth of Smith's Gulch. Heatle's flume, some distance down the creek, is ready for operation. Four miles below Leeshurg is Beers, Davis & Co's flume—an extensive affair. The work was done last winter, and the flume cost some $25,000 or $30,000. It is now ready for operation. All the indications are favorable.

MONTANA.

Helena *Post*, March 26th:

Silver Star.—We learn that there is great excitement in regard to the quartz prospects. The unprecedented success of the Green-Campbell and Stevens & Trevitt's mills, has aroused people. Every one owning quartz instead of being anxious to sell, experiences a desire to prospect, and developments are being made to a great extent.

Cave Gulch.—In this camp we learn that drifting has been going on all winter with very favorable results. Marshall's ditch, which conducts water from Magpie Gulch, will be open in about three weeks, and mining will then commence for the season in earnest.

Deer Lodge.—Charles Hendrie and Dr. Ray have commenced operations at Butte City. They are building a smelter, crusher and roaster, all of which they expect to have running within thirty days. Among other leads which they propose to work upon is the Gem. The prospects for placer mining on the Butte the coming season are flattering. It is expected there will be upwards of 500 men employed. In Gold Creek some new diggings have been discovered, which promise to be very rich.... Another rich and extensive discovery has been made in the Gold Creek region, at the head of Squaw Gulch. The pay ranges from 20 to 40 feet in depth, and pays from the grass roots down. Water will be used to work this ground from the Rock Creek ditch, and they will be mined by hydraulics.

Lincoln Gulch. — During the past winter considerable work has been done at the lower end. From present indications it will yield abundantly. The extent of pay ground is not large, but it is very rich.

Public Spirited.—Travis Bros., appreciating the energy and untiring perseverance of Capt. Robert Parkinson in developing his lode at Unionville, in the face of many obstacles, manifested that appreciation by presenting him with a handsome carriage valued at $550, and they agree to present to any man who during the present year shall develop a lode to the same extent as Mr. Parkinson has to the present time, a team worth $1,000.

Virginia City Items.—From the *Democrat* we learn that sluicing has commenced in Alder Gulch....At Nevada City the season is a month earlier than usual....A specimen of quartz from a new district called Silver Belt, shows it to be very rich. ....It is said that the Cork Co. will lease the ditch from E. Croighton & Co. this season. This ditch supplies water to Alder Gulch.

NEVADA.

PAHRANAGAT.

Austin *Riveille* April 8th:

We learned yesterday from Mr. Frank Clugage, who just returned from Pahranagat, that work was nearly stopped in that district for want of hands. Two companies were in want of miners, but they could not obtain them, so great was the rush to White Pine. Wages for miners was $6.50 in currency per day. On his way in Mr. Clugage stopped at Graut and Troy districts, where all was life and activity. In the former there was a considerable body of men at work in opening claims or prospecting.

REESE RIVER.

Austin *Reveille* April 3d:

Lander Hill.—Several of the mines are producing ore, both chloride and sulphurets, of unsurpassed excellence, and in considerable quantities. Lane and Fuller has developed a massive body of noble silver ore of the sulphuret variety. A liberal proportion of this ore will yield in the mill from $500 to $600 per ton; while the second class, of which the tons already extracted will number hundreds, will give from $150 to $200 per ton. In the works of the Manhattan Co. fine ore has been disclosed in mass at several points. The Florida is producing very valuable ore; and the ore in the Harding and Dickman is not at all inferior to that produced in its earlier days.

Same, of 6th:

The Manhattan mill would have been opened two weeks earlier but for the difficulty of procuring experieuced hands. White Pine is the great maelstrom which has drawn to its center the people of contiguous and remote districts. This is a fact, and a sufficient explanation of the closing of works in Silver Bend.

Same, of 7th:

As announced, the Manbattan was reopened this morning with the thunderiug chorus of its full battery of 20 stamps. The sound is cheering. There is a large supply of ore of a very high grade at the mill.

Same, of 8th:

Butte Mountain.—Miners and prospectors are busy. The Little Giant continues to produce large quantities of superior ore. The second class of this, about three-fourths of the whole, assays about $300 to the ton. The Atchison mill, where the ore is reduced, saves only a moderate proportion of the silver. There is no timber contiguous to the mill, and sage brush is the only fuel used. On or in the vicinity of Long Creek, there are 15 other ledges which produce excellent silver ore, some of which have many tons waiting reduction.

Belmont *Champion*, April 3d:

Peoria District.—A mining district, situated northwest of Reveille district, has been organized and called Peoria. The result of seven assays of the ore is given, the highest of which is $675, and the lowest $125 per ton.

Reveille.—A gentleman just in from Reveille informs us that the prospects were never so bright as at the present time. The population of the district is increasing daily, and the work of prospecting and opening the mines is being prosecuted vigorously.

Silver Peak.—We learn that, owing to the scarcity of laborers, the mill of the Silver Peak and Red Mountain Co. is able to run but half the time.

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

The Gold Hill *News*, of April 10th, says: "All yesterday afternoon and last night the shafts of the Yellow Jacket, Kentuck and Crown Point have been closed tightly as possible, to the exclusion of fresh air from the surface; and from the boilers of the hoisting works of all three mines, a strong volume of steam has continually been pouring down each shaft. Through the large blower tube of the Yellow Jacket and Crown Point shafts the steam passes to the lower levels of each mine, and down the Kentuck it is forced nearly 100 feet, through heavy iron pipes thrust down for the purpose."

Flags at Half-Mast.—The flags on the various mining works and engine houses throughout Gold Hill and Virginia have been at half-mast ever since last Wednesday.

After the injection of steam as above described had been kept up sufficiently long to insure the complete extinguishment of the fire, in the opinion of those best capable of judging, the shafts were opened. But it was found that the fire was yet burning; and after the recovery of two more bodies, the shafts were again closed. The injection of steam was renewed, and is still going on. The shafts will probably remain closed during the remainder of the week. The damage to the mines is believed to be, upon the whole, not very great.

Virginia *Enterprise*, April 6th:

Occidental.—Yesterday (Monday) this company struck into some very good ore at the bottom of the winze they have been sinking from their present lower level. The winze is 140 feet deep, and the ore was encountered 30 feet below the lower level. It will probably work about $50, though assays run as high as $150 and $200. The Co. sent to Gold Hill for melting and assay, about 350 pounds of crude bullion, of the estimated value of $10,000. We understand that the trustees of the Co. have decided to declare no more dividends at present. They are satisfied that their lower tunnel will tap the lead much sooner than was anticipated, and, instead of giving dividends, will retain the cash in the treasury, for the purpose of building a large mill at the mouth of the tunnel as soon as the vein has been cut.

Nevada Mill.—A new engine is being put up in the Nevada mill. The old one was not of sufficient power to do the work required.

Sierra Nevada.—The necessary repairs to the boiler and other machinery of the Sierra Nevada will have been completed, and it will start up again this morning, about 9 o'clock. The Co. have on hand an abundance of excellent ore.

Same, April 9th:

Dividend Recinded.—The Yellow Jacket dividend of $5 per share, payable on the 14th, has been recinded. It is doubtless intended to use the surplus funds of the Co. in re-timbering the mine, and repairing the damages caused by the recent fire.

Same of 10th:

Gould & Curry.—The Gould & Curry Co. are finding some very fair quartz in the bottom of their shaft. The pay occurs in bunches, and the best ore assays nearly $70. The indications are very favorable.

Bullion Shipment.—During the past week Wells, Fargo & Co. have shipped from their office, in this city, 7,180 pounds of bullion, worth $193,538 71, and the Pacific Union shipped 2,150 pounds, worth $55,721 42, making the total shipment for the week 9,330 pounds, worth $249,260 13.

WYOMING.

Sweetwater Mines, Feb. 24th: Work is progressing on the Mary Ellen, Calhoun and Gold Hunter ledges. The quartz from all three prospects from $75 to $100 per ton. ....P. Walsh informs us that his shaft on the Morning Star ledge is down 30 ft. exhibiting a 3-ft. crevice....Lem. Colbath had arrived at water level with his shaft, and the St. Lawrenco continued to hold its richness and size....Boyd and Sickler are busy at work on Cariso Hill, sinking a shaft on the Young America extension....Geo. Dixon is diving into the Nelly Morgan ledge as fast as powder and pick will carry him....An ounce per day is being taken out of Rock Creek by the rocker process. ...The last run of the Miner's Delight rock milled over $120 per ton....Claims are being prospected on Hermit Creek.... A company has been organized to develop Willow Creek....Fairfield and Smith have just started their shaft on the Norfolk.... Theall and Snider, on the Empire lode, are now at the depth of 22 ft., and their ledge is very rich....A rich ledge was discovered late in the winter, California district, half a mile below Atlantic City, and called the Golden Leaf. It assays—miners' process, hand mortar and horn—$263 per ton, a little over 13 cents per pound....Mr. Grace has taken out 500 tons of excellent ore from the Reedell claim, Cariso ledge, Robert's claim is being worked during the winter. Work will be resumed on all the Cariso claims in a short time.

Same of March 3d: Sage Miller and party are constructing an arastra below the mouth of Slate Creek on rock, for working ore from the eastern end of the Cariboo. Peas & Co. worked rock last summer from the western end by the same process, which paid $55 per ton....Morris, Moliter & Co. have driven their shaft of 22 ft. on the Garden City....The Miners' Delight rock is turning out over $150 per ton. In four days' run, $4,800 was taken off of the plates alone....Ramsey & Stark, of the Duncan ledge, have a shaft down 15 ft. with a 3 ft. crevice. Chris. Smith on the Barbary, has a shaft down about the same depth.

Minerva.—Erwin & Co. have a shaft down some 15 feet, and a crevice of 16 inches.

Same of 14th: We paid a visit to the Cariso ledge a few days since. On the dump is to be seen between 600 and 700 tons of the finest quality of ore, for easy milling, to be found in this or any other country, and of extraordinary richness. We were permitted to carry away our pockets and arms full of specimens, sticking full of gold. On Reedell's claim the ledge has a width of from 10 to 15 ft. along the drift.

Diamonds at the Cape of Good Hope. Mr. H. Emanuel, a resident of the Cape, has sent a suitable man to explore the reported diamond region,—in order that he might contradict or confirm the stories which have been set afloat upon the subject. This person "failed to find anywhere those geological and mineralogical signs which have hitherto been invariably seen wherever diamonds have been found, and nowhere does the formation of the country warrant the inference that diamonds could exist there. He is of opinion that no diamonds have nor ever will be found in the Cape Colony—saving such as are there deposited for a purpose; and he fully believes that all the reports that have been so industriously circulated on this subject and about gold fields owe their origin solely to interested parties who aim at enhancing the price of land and attracting a flow of immigration."

Japanese Dentists.—Dr. Alexander M. Vedder, for some time resident in Japan, in the *American Journal of Medical Science* for January, says: "The extraction of a tooth is regarded by the Japanese as a capital operation; and not without reason, if the information given me be reliable, that death (from tetanus, I presume) is not unfrequently the result. The tooth is extracted by the operator's fingers, but not until it has been well loosened by means of a stick and a mallet vigorously wielded. The operation is seldom performed; but I saw some teeth in the possession of these charlatans that had large portions of the alveolar process attached. In the face of these facts it can scarcely be credited that artificial teeth, sustained by *atmospheric pressure*, have been in use from time immemorial. These teeth are carved out of sea-horse ivory."

Something More than a Toy.—Now that the irrepressible Yankee has got hold of the velocipede, he is not likely to let go of it until he has perfected it. He will make "something useful" out of it, for it has "possibilities." The papers are full of descriptions of new improvements upon it. We see that a Detroit man has made one which has been run a mile in two minutes and a quarter, upon a common road. We are quite prepared to learn that some genius has leaped his four-wheeled machine upon the rail track in front of an approaching locomotive, and, with thumb to nose and fingers impudently gyrating, has bid defiance to the engine driver, challenging him to catch him if he can!

The Darien Canal Business is still in a muddle, although its friends continue to think that it will come out all right, so far as governmental negotiations are concerned. In the meantime a resolution has been offered in Congress to authorize the President to appoint a commission "to examine into the practicability and best method of establishing a ship canal at the Isthmus of Darien."

The St. Louis Artesian Well is now down something over 3,000 feet, and still going down at the rate of about three feet a day. This rate of descent has been kept up for over two years. We are not informed as to the depth at which they expect to find water. This well is being sunk at the expense of the county.

MINING AND SCIENTIFIC PRESS.

W. B. EWER..... .....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, April 17, 1869

Notices to Correspondents.

S. P.—Antbelia is the name given to the pbenomena you allude to, and, according to Sir J. Emerson Tennent, is frequently to be seen in Ceylon in great beauty at early morning, when the light happens to be intense and shadows consequently are proportiouably dark. On such occasions when the sun is near the horizon, and the shadow of a person walking is thrown on the *dewy* grass, each particle of dew furnishes a double reflection; one from its concave and a second from its convex surface. From these causes the spectator perceives his figure, but more particularly the head, surrounded by a halo as vivid as though it were radiated from diamonds. Scoresby has described a similar occurrence as taking place in the Arctic Seas, when fogs rest upon calm water. Something similar has also been witnessed in India in the Khasia Hills, and by Vigue in Cashmere. Remond mentions a still more striking phenomenon as being occasionally observed in the Pyrenees, viz: that of the reflection of the human body with a halo round it, on the surface of a cloud, lying level with the spectator.

Interesting contributions for our cabinet have been received from Dr. L. G. Yates, of Alemada; from W. F. Stewart, of San José; Henry Kohlong, of Napa, and J. H. C. Bennett, of Santa Clara.

The Giant Powder is now undergoing a pretty thorough practical trial in the quartz mines at Grass Valley. The *Union* says it has been employed over a month in the Empire mine, where it is regarded with much favor by the superintendent, Captain Lee, and by the men who are using it. Whatever doubts or prejudices existed previous to its introduction there, have now been quite effectually dispelled, even to the serious question of injury to health from the fumes of its explosion. The great saving in its use is found in the fact that a three-quarter inch hole, which can be drilled by one man, when charged with this powder, will do more execution than an inch and a quarter hole, which must be drilled slower and with two men, can do when charged with ordinary powder. The North Star mine and the Eureka mine have also commenced experimenting with this powder. Mr. Watt, the superintendent of the latter mine, is determined to give it a practical trial, and become thoroughly convinced of its merits or demerits. His opinion will doubtless have much influence with miners throughout the State.

Wooden Hams.—The Chinese made wooden hams, covered with hogskin and smoked, five hundred years before a Yankee was ever thought of.

San Francisco Manufacturing Notes.

A ride to the suburbs on any of the railroad routes of San Francisco, discloses unexpectedly to the observer so great a number of new manufacturing establishments, that it is beginning to be quite impossible for even an old citizen to keep the track of them, otherwise than by devoting several days or weeks especially to the business. Many of these manufacturing processes are of great interest and importance to the State; all their doings are certainly of interest to the capitalists and specialists who thus occupy vacant fields, and derive splendid and permanently flowing profits from them, or who in consequence of their own miscalculations, lose. We shall refer to some of the salient points, at random, as our attention may be directed to particular establishments in our excursions. Manufacturing is especially active around Mission Bay. There are several score at least of smoking chimneys or high walled manufacturing enclosures to be met with on a walk, the object and detailed operations of which reach the cognizance of the public only over the tradesman's counter.

Another favorite locality is along the roads or the water between North Beach and Fort Point. The variety is too great to admit of specification in classes. In general it may be stated that about everything can now be manufactured here to profit, that is done in the Eastern States, only that is under modified circumstances. Very many of the establishments are small, or temporary looking—of redwood boards—but none the less promising on that account.

Samuel's Wood Preserving Establishment,

which has been noticed in the papers, is one of those which does not appear to have fairly commenced in its career of boped-for success, though there are large heaps of Nicholson pavement blocks that have been treated by it, lying in the vicinity of the works on Berry street, between Third and Fourth. It has a collossal iron cylinder extending from the wharf's edge through a small redwood engine building, to the loading place for wagons in the rear; the dimensions being seventy-four feet in length and four feet in diameter, and a railroad track running through its entire length for trucks to carry in and out the timber to be treated. A 15-horse power engine first exhausts the air, then forces the solution sulphate of iron and lime out of the tanks into the cylinder, to a pressure of 130 pounds to the square inch. This is kept up from three to eight hours, according to the kind of timber. One set of cars admits of curing 12,000 feet of lumber in twelve hours; two sets nearly double the quantity. The charges are about $8 per thousand feet, or one-fourth the price of the wood. Piles exposed to the attacks of borers, and wood in general liable to rot, is preserved, according to the representations, for fifty years. Mr. Gray is the Superintendent.

Asphaltum Drain Pipe Factory.

On Berry street, between Second and Third, there is a new drain pipe factory, which has been started by Mr. Christian Wise. This article is very superior for acid and alkaline waters, lasting indefinitely, at the same time that it is the cheapest in the market except common clay pipe. It is made of San Bernardino asphaltum, clay, and lime saturated with the impurities of coal gas, from the gas works. These are ground fine, mixed in melted asphaltum, and worked into pipe of 6, 8, and 12 inches diameter, in upright molds of the kind invented by Mr. Carlyle, of the Golden State Iron Works; a revolving weight packing the matter in firmly as it is fed, and a jet of water from below cooling it off. The asphaltum used costs $16 a ton, and contains about 20 per cent. of oil. Where there is no great pressure or head of water, asphaltum pipe is excellent. It is used for sewers and salt water drains especially, where iron would corrode, and cement pipe would soften.

A joint of pipe three feet in length is made in about five minutes. Mr. Richard Gaines, the foreman, has invented a new machine, however, by the use of which the same can be done in one minute; steam pressure and suitable cylinders being the agency employed,

A New Crushing and Grinding Mill,

on a principle entirely original, is employed at this establishment, the invention of Mr. John Doherty, a poor and decrepid old shoemaker, who hit upon the idea while lying disabled upon his couch in the hospital. It is highly spoken of by the foreman as performing successfully the functions both of a crusher and grinder, and as possessing the merit of being remarkably cheap, and requiring little power. It is very simple. There is a stationary disk, thick and indented on one side, and a revolving one, similarly indented so as to open a space between it and the stationary one. As the movable one revolves, this opening gradually closes, and grinds up the rock, reöpening and closing in succession. Blocks of granite the size of a fist were instantaneously reduced to powder. The cost is $100 or less, while any other machine to do the work would cost the factory $400 or $500. An old coffee mill grinder has been discarded as worthless. Doherty thinks that his mill will do the work of a 10-stamp quartz mill. It is estimated to crush a ton an hour, and is intended to work wet as well as dry.

Improvements and Developments,

along the newly piled and leveled water front beyond Rincon Hill, are rife at every hand. Pope & Talbot have opened a lumber yard at the foot of Third street. The Napa and the San Francisco Wood and Fuel companies occupy wharves, and are running steam cutting and splitting machinery, both doing an active and growing business. Granite stone yards occupy many vacant lots. The Pacific Linseed Oil and Lead Works are finely "fixed" for a career of prosperity, the buildings being substantial, of brick, and ample. The linseed oil of the market is refined, and metallic lead is transformed into carbonate or white lead, by fumes of acetic and carbonic acid. The gas works in this vicinity are extensive, and very substantial and neatly kept. The entire hill to the rear, of solid rock, and about 200 feet in hight, is coming down. The Oakland Ferry Slip and other improvements in prospective, are biding their time. Passing the Marine Hospital we may note Reichling's Gold and Silver Refinery. Brodie is here erecting a large foundry, at the corner of Harrison street, the building being a frame, and of redwood.

On the second page will be found an article of some importance to millmen, by Charles H. Aaron, on the amalgamation of silver ores without roasting. Mr. Aaron depends on the proper use adapted to the chemical ingredients of the ores, mainly of the sulphates of iron and copper, and endeavors to explain the chemical operation under various circumstances, presenting at the same time an ample array of facts, from experience. The words "cuprie" and "ferrie" should in every case read "cupric" and "ferric," etc.

The article on "A new Method for Treating Sulphuret Ores," describes in detail a process for chloridizing roasting, in which Plattner's gold chlorination is made to precede amalgamation. In regard to the practical operation or economical value of this method of procedure we must be permitted to express a doubt.

Mineral Phosphates.—Seven companies are engaged in working the mineral phosphates near Charleston, South Carolina.

The Pacific Railroad Celebration.—A special meeting of the Mechanic's Institute was held at the Institute rooms, on Saturday evening last, to take some initiatory measures to secure a proper celebration, in this city, of the opening of the Pacific Railroad. After considering several resolutions, and carefully canvassing the whole matter, the following resolution, offered by Gen. A. M. Winn, was finally adopted:

Resolved, That the President and Board of Directors are hereby requested to issue circulars to every association in this city, and to advertise the same in the daily papers, requesting their attendance by delegates to a Convention, for the purpose of taking measures to celebrate the opening of the Pacific Railroad, and to fix the time and place for the Convention.

The President and Board of Directors were then selected by the meeting to attend the proposed convention as delegates from the Institute.

At a subsequent meeting of the Directors, the President of the Institute was instructed to to communicate with the Mayor and Board of Supervisors, of San Francisco, asking that they extend invitations, in the name of the city authorities, to such other cities, towns, societies and organizations as they might deem expedient, to join in the celebration of the completion of the Pacific Railroad, and to tender the free use of the Pavilion for such purpose.

It is to be hoped that our citizens, and the people generally, throughout the State, will take hold of this matter in earnest, and secure such a celebration as shall be fitting to the completion of the greatest engineering enterprise ever undertaken in the history of the world.

The Gold Hill Disaster.—When we went to press, last week, telegraphic dispatches had just been received in this city, to the effect that all hopes of rescuing any more lives from the burning mines had been abandoned, and that the mouths of the shafts leading to the mines had just been closed with the view of injecting steam to smother the fire. The steam from some six or eight boilers, under heavy pressure, was thus forced into the mines from Friday evening until Monday noon; when, under the supposition that the fire had been extinguished, the shafts were again opened, the foul gases pumped and forced out, and exploring parties sent down to examine into the condition of things. Three more dead bodies were brought up; but the fire was found to be still raging, so that no others could be recovered. The shafts were once more closed, after some two days ineffectual effort to subdue the fire with water, and steam again forced into the chambers of the mine, until it was supposed every part thereof had been reached by the vapor. They will not be opened again until next Monday, when it is hoped the fires will be effectually subdued, and the balance of the bodies removed, preparatory to the resumption of work. Some eight or ten thousand dollars have already been raised for the benefit of the sufferers, and money is still coming in to the committee appointed by the citizens for the proper disbursement of the same.

Cyclops Engine and Machine Works, is the name of a new establishment just opened at 113 Beale street, by Messrs. Hugh H. Lamont and Wm. Caldwell, as will be seen by reference to their card which appears to-day. It is the intention of this firm to engage in constructing and repairing stationary and marine engines of every description, together with mill and mining machinery, and all other work in their line. The building is new and sufficiently commodious, and as their machinery is also new, the establishment presents altogether a very pleasing and tidy appearance.

Continental Life Insurance Company, 203 Montgomery street, corner of Pine.

White Pine Summary.

Continued bad weather during the past few weeks has given idle people and correspondents ample occasion to see the future of White Pine in its most unfavorable light; the results being visible in a still larger proportion of unfavorable editorials this week, in our exchanges from this State, as well as from Nevada. Rumors are circulating in this city that the half dozen leading chloride mines have been sacking their rich ores, to send below, and to New York, with a view to selling the mines on the strength of what has been found near the surface. In certain quarters a growing confidence in the base metal range is also noticeable. White Pine stock has been selling very slowly, in San Francisco as well as in New York; so that there is no danger of the White Pine mines being valued for much more than they will prove to be worth, except by those who have gone into mining as they would into gaming. Travel on the Central Pacific Railroad has fallen off twenty per cent., and the tent makers in this city,—who are furnishing the housing for the summer's army of occupation in our great interior—report a marked decrease in their orders. Freight to Hamilton has been reduced from 30 to 20 cents per pound. All kinds of goods, and especially stores, are very cheap at White Pine. No very marked increase is shown in the shipments of bullion, the total to date, from White Pine district, being about a million and a quarter.

Rich Developments—The California. The White Pine *News* of April 7th, says the California mine rivals the Eberhardt in extent and the quality of its ore. The California is situated on a low bench of Treasure Hill, half a mile east of Shermantown. The ledge is stripped for 100 feet, and is about forty-five feet in width. The ore was covered by four or five inches of dirt, which being removed leaves the whole surface of the ledge exposed, and the entire mass is good milling ore, running by assay from $100 to $8,000 per ton. * * *Inland Empire*. April 2d, says of the California: Some idea of the wonderful richness of this mine may be gathered from the fact that the ore—a mass of argillaceous matter, resembling amalgam—after stripping off the surface dirt, is shoveled into sacks, and that much of it, by the simple process of smelting, yields from $3 to $4 per pound. A ball of this ore submitted to the blowpipe is almost instantly covered over with globules of pure silver. The most wonderful feature of the mine, however, is the vast quantity of this rich ore now in sight.

Black Hornet.—This claim at the southern point of Treasure Hill, was recently, says the *Empire*, the scene of some excitement in consequence of the development of a mass of chloride ore four feet wide "which is fully equal to the richest of the Eberhardt or California." * * Same of 4th says: We understand that the owners of the California mine have put men to work to ascertain whether the Black Hornet is a spur of the California or a distinct lead. The owners of the Black Hornet are perfectly satisfied with the arrangement, as they know that there are 50 feet of solid limestone between the two leads, similar in character and rich beyond computation.

Standing Stone.—*Empire* of 2d, says: "Dr. S. A. McMeans has taken the superintendency of the Standing Stone mine, at Mahogany Grove or Eberhardt City." * * Same of 4th: "We understand that Dr. McMeans has struck the pure stuff in his Standing Stone mine at Eberhardt City. For the workmen have taken out considerable quantities of metallic silver, and the Doctor has extended an invitation to a number of friends to visit the mine to-day and see the curiosity.

Minor Items—Little Monitor.—This mine, which is located on the California belt, presents very encouraging prospects, and ere long may fully equal in richness the California or Black Hornet. * * Recently the Great Union Tunneling Co. advertised for sealed proposals to drive a tunnel in a distance of 200 feet, with the privilege on the part of the bidder to continue the tunnel to 500 feet. Over forty bids were put in.

Lady Washington, No. 3.—Col. John Kerr, Superintendent and one of the principal owners of this mine, situated near Eberhardt City, is pushing work upon it with vigor and with the most flattering success. A large body of very fine chloride has been developed.

Bullion.—Wells, Fargo & Co. dispatched from the Hamilton office, yesterday, six bars of bullion, valued at $12,000.

Struck Water.—T. M. Luther and Jerry Huey have been engaged in driving a tunnel in the ravine below Shermantown for the purpose of procuring a supply of water for milling. We learn from the *News* of the 7th that their efforts have been successful. * * The quartz mill at Shermantown, built by L. B. Mooro and C. O. Barker—formerly the Butte of New York Cañon, north of Austin—has recently been purchased by Drake & Applegarth for the sum of $40 000.

New Tunneling Co.—The California State Tunneling and Mining Co. have undertaken to penetrate Treasure Hill from a point about 1,000 feet south of the Eberhardt, running nearly north for a distance of 2,400 feet, and terminating beneath Pogonip Flat. It will make a slight deflection to the west, in order to pass the main Eberhardt ground, but will pierce the west extension of that mine at a depth of 400 feet from the surface. There are a great number of good mines along the line of the proposed tunnel. Work has already been commenced and the discovery of a promising ledge was made at the start. They claim the exclusive right of tunnelway for a width of 100 feet on each side of their line, and will claim 2,400 feet on each ledge they may discover. The members of this company chiefly hail from the valley of San José, Cal.

Black Cloud.—White Pine *News*, April 7th: The Black Cloud is situated on the southern slope of Treasure Hill, a short distance south of the Eberhardt. Yesterday we learned that a rich strike had been made in the Black Cloud at a depth of but fifteen feet, and another nearer the surface.

Biggs.—In the Biggs' mine, about half a mile from here, rock has been blasted out which is pronounced good by experts. On the Treasure Street Range blasting is continuous, and the exhibitions are such as to encourage those engaged in its exploration. We have heard of some fine discoveries near the Argyle claim at Treasure, but the particulars are, for the nonce, withheld.—*Inland Empire, 9th.*

"Vein" vs. "Deposit."—The *White Pine News* of April 3d says: Those who contend that the silver ores of Treasure Hill are only in small deposits, and not in fissure veins, would do well to examine the vein containing the Phœnix, Parker and Featherstone mines. On the grade leading to the Hamilton is seen the opening of the Phœnix, which attracts attention from the regularity of its formation and the richness of its ores. The opening is not very extensive, but some forty or fifty tons of very valuable ore is walled up by the side of the road. The foot wall seems the only one found, and from appearances we should judge the main ledge to be about 50 feet in thickness. Tracing the vein northerly, the Parker, which is an extension of the Phœnix, is found. Still further to the north is the Featherstone. Here the vein is more thoroughly opened. Any one examining it will not hesitate to pronounce it a true vein of great size and value. Its casings are as distinctly marked as the leaves of a book, and its strike and pitch regular.

Robinson District.—A private letter of date March 30th, describes this district and its advantageous situation. It is seven miles from Steptoe Valley, one of the finest in the State. It is 30 miles east of Hamilton, although it is 45 miles travel from that place. Among its ledges, the Elijah is 18 feet wide, and assays from $300 to $400 per ton. The City of London, the Rio Grande, and the Flying Cloud, all have croppings from 10 to 50 feet high. The writer goes on to say: "there is more metal in sight here than I ever saw in the Savage, Curry, and all the mines put together; plenty of wood and water, good roads and grass, and also a salt mine, and ores can be reduced as cheap here as in Washoe."

Systematic Exploration.—On Monday last there left Sacramento, says the *Union*, for White Pine district, a scientific expedition composed of Lieutenant-Colonel C. S. Drew and J. W. Drew, late of the United States Army; Frank E. Brown, geologist; Willie Brown, Hermann Richter, surveyor and topographer, and S. M. Holdredge, artist. They will remain in the field about three months, and probably extend their explorations as far south as the Colorado river. They have a complete outfit, including a thorough-brace Concord wagon and harness, etc., for two or four animals, saddles and equipments; portable furnace, chronometer, surveying instruments, barometer, thermometers, chemicals, etc.

Treasure City correspondent of the San Francisco *Herald*:

New developments are being made daily. Yesterday I visited the Rogers mine, which is situated about 2,000 feet below the Eberhardt, on what is known as East Eberhardt Hill. Recent developments have shown it to be one of the richest mines in the district, and so far as it has been developed, it shows a well defined fissure vein. It can be traced about 500 feet. Three assays of the ore have been made, ranging from $382 to $1,000 per ton. The shaft is about five feet deep, and the opening about nine feet wide, which is the width of the ledge.

The Bucklin mine is situated about 400 feet northeast of the Eberhardt, and is coming into notoriety rapidly. They have a shaft down about 25 feet. They are now in good milling ore, and there is every appearance of its becoming a second Eberhardt. It is, moreover, easy of access.

Seymour District.—*Inland Empire*, of April 9th, says this district was discovered about two months ago by John Centers. The locality is in a line nearly due south from Hamilton, and distant about 80 miles. It is not far from Patterson District. The ledges of Seymour are from ten feet upward, the Black Warrior being about 80 feet wide, so far as prospected. We were shown samples of the rock of the district yesterday, and have no hesitation in saying that what we saw is exceedingly rich. The Black Warrior lode has produced specimens which yielded over $5,000 to the ton. John Centers says he kept his discoveries a secret as long as he could, and until he procured all the locations he wanted. He describes the country as being well wooded and watered.

California Patents Issued.—We give, to-day, quite a large list and description of patents issued to California inventors, for the week ending March 30th, and reported to us, especially, by our Washington agent. The entire number issued was twelve—ten of which were obtained through the Mining and Scientific Press Patent Agency.

Returned.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

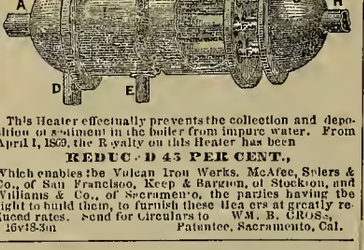
Photography.—For Cabinet Photographs, or Enameled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
10v18-6m B. F. Howland.

Co-Operative Union Store.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block San Francisco. 6v18-3m

PAIN KILLER!

The Great Family Medicine of the Age. Taken internally, it cures
Dysentery, Cholera, Diarrhœa,
Cramps and Pain in the stomach,
Bowel Complaints, Painters' Colic,
Liver Complaint; Dyspepsia and Indigestion,
Sore Throat, Sudden Colds,
Coughs, etc., etc.
Used externally, it cures
Boils, Felons, Cuts,
Bruises, Burns, Scalds,
Old Sores, Sprains, Toothache,
Pain in the Face, Neuralgia,
Rheumatism, Frost-bites, etc., etc., etc.
The Pain-Killer is sold by all Druggists and dealers in Family Medicines.
REDINGTON & CO., and HOSTETTER & SMITH, San Francisco Cal., General Wholesale Agents. aplm

CROSS' COMBINED
Heater & Sediment Collector



This Heater effectually prevents the collection and deposition of sediment in the boiler from impure water. From April 1, 1869, the Royalty on this Heater has been
REDUCED 45 PER CENT.,
Which enables the Vulcan Iron Works, McAfee, Sulers & Co., of San Francisco, Keep & Barston, of Stockton, and Williams & Co., of Sacramento, the parties having the right to build them, to furnish these Heaters at greatly reduced rates. Send for Circulars to WM. B. CROSS,
16v18-3m Patentee, Sacramento, Cal.

Crucibles.

The Patent Plumbago Crucible Co.,
Manufacturers of all kinds of
Melting Pots, Portable Furnaces.
CRUCIBLES, and other fire-standing Goods,
Battersea Works, London.

THE MORGAN PATENT CRUCIBLES have uniform quality, never crack, withstand the greatest heat without danger; heats more rapidly than any other; change of temperature has no effect on them; stand on the average forty to fifty pourings.
On hand and for sale by the Agents,
A. S. HALLIDIE & CO.,
1v18-3m9p 519 Front street, San Francisco

A GOOD INVESTMENT.

THE MOUNT MORIAH
Silver Mining Company,
OF ARGYLE MOUNTAIN,
White Pine District,
NEVADA.
Capital. - - - $300,000.
6,000 Shares, $50 Each.
FULL PAID AND NOT LIABLE TO ASSESSMENT.

President.....A. De LAND
Secretary.....LOUIS CONN
Superintendent at Mines.....CHAS. E. HARRIS

TRUSTEES:
A De LAND, THOMAS ANSBRO,
CARL PRECUT, LOUIS CONN,
W. S TAYLOR.

This Company offer to the public One Thousand Shares of the Capital Stock for a Working Capital, at the subscription price of Five Dollars per share—FULL PAID, and NEVER liable to any assessment whatever. The mine is admirably located for working, being situate on Argyle Hill, opposite Treasure City. Shaft sunk 10 feet, showing a large body of chloride, which assays $700 per ton, and which will now mill $200. The capital raised to be used and expended on the mine. The standing and reputation of the Trustees is ample guaranty of responsibility, etc. Maps and samples of ore, and subscriptions at the office of the Company, Rooms No. 15 Stevenson House, corner California and Montgomery, and at 211 and 213 California street, near Battery street. 16v1-tf

HUGH H. LAMONT. WM. CALDWELL.
Cyclops Engine and Machine Works,
Construct and Repair every description of
Stationary and Marine Engines, Mill and Mining Machinery.
Special attention given to Repairing Machinery.
ap17 3m 113 Beale street, near Mission, S. F.

PACIFIC
Rolling Mill Company,
SAN FRANCISCO, CAL.
Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.
☞ Orders addressed to PACIFIC ROLLING MILL COMPANY Post Office, San Francisco, Cal., will receive prompt attention.
☞ The highest price paid for Scrap Iron. 9v14-3m9p

Maurice Dore & Co.,
AUCTIONEERS.
THURSDAY.
THURSDAY.....MAY 6, 1869,
☞ At 12 o'clock, at Salesroom,
No. 327 MONTGOMERY STREET,
Special Credit Sale
—OF—
Montgomery Street Property,
By order of the Trustees of the Montgomery Street Real Estate Company.
We will sell on the above date
1,000 FEET FRONTAGE
ON MONTGOMERY,
BETWEEN MARKET AND HOWARD STREETS,
Which will embrace 12 FINE CORNERS, as follows:
One on Montgomery and Market,
Three on Montgomery and Jessie,
Three on Montgomery and Mission,
One on Montgomery and Minna,
Four on Montgomery and Natoma, and
One on Montgomery and Howard Streets.
Montgomery street, between Market and Howard, is 70 feet in width, and will be sewered, paved with Stow pavement, curbed and sidewalked.
TERMS—One-fourth cash; one-fourth in one year; one-fourth in two years; one-fourth in three years—deferred payments to bear interest at the rate of ten per cent. per annum, payable monthly, and be secured by mortgage on the property.
Diagram Catalogues will be ready in a few days, and can be had on application at our office.
MAURICE DORE & CO.,
15v18 1m Auctioneers.

To White Pine Owners and Others.
Abstracts of Titles to Mining Claims, Town Lots and Lands furnished. Mines examined and reported on by a competent person now residing in Treasure City. Mining Claims, Town Lots, etc., bought and sold on commission. For information apply to BIBLEMAN & CO., 625 Montgomery street. 15v18-1m

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continuat working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Scamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hausbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first-class work, and we intend to do no other.

GODDARD & CO.

San Francisco, May 1, 1868. 18v16tf

WILLAMETTE IRON WORKS,

PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,

18v13-1y One block north of Couch's Wharf.

Globe Iron Works,

STOCKTON, CAL.

KEEP & BARGION,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.

13v13tf

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Sclisaud Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. GALLAGHER. J. H. WEED V. KINGWELL.
9v13-1y

FOUNDRY FACINGS.

BENJAMIN ELLIOT,

No. 483 Brannan street.....San Francisco,

Manufactures Foundry Facings constantly, from choice coals. Bituminous, packed in tight sacks. Anthracite and Charcoal ground together or separate, packed in whole or half barrels. Black Lead, Coke and Soapstone ground to order. Foundrymen located far from choice material, can rely on having superior Facings forwarded to order.

10v18qr

Miners' Foundry

—AND—

MACHINE WORKS

Nos. 245 to 255 FIRST STREET,

San Francisco.

HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS.	FLOUR MILLS,
SAW MILLS,	SUGAR MILLS,
POWDER MILLS,	PAPER MILLS

Steam Engines of all Kinds. Amalgamators of all Kinds.

MINING PUMPS,	HOISTING WORKS
OIL WELL TOOLS,	ROCK BREAKERS

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE,

The most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,
13v11-qr **CYRUS PALMER.**

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers,** with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their Inventions. 1v16tf

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,

14v11 SACRAMENTO CITY

THOMPSON BROTHERS,
EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,
of every description, manufactured 24v16qr

JAMES MACKEN,

COPPERSMITH.

226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.
13v11

G. T. PRACY.
MACHINE WORKS,

NOS. 109 and 111 MISSION STREET,
Between Main and Spear.

New and second hand

Engines and Boilers,

FOR SALE.

Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

PRACY'S

New and Improved

STEAM ENGINE REGULATORS,

The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S

Shingle Machines

on hand.

Particular attention paid to Repairing.

☞ All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

THE RISDON
Iron and Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,000,000.

Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Binsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

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All work in their line attended to with promptness and dispatch.

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Phœnix Iron Works.

JONATHAN KITTREDGE, Proprietor,

Nos. 18 and 20 Fremont street, near Market, San Francisco.

MANUFACTURER OF

Fire-Proof Doors and Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge, Prison

FORGING AND MACHINE WORK,

IMPROVED FIRE-PROOF SAFES,

FIRE AND BURGLAR-PROOF SAFES,

Of a superior make. Sole manufacturer of the celebrated

MONITOR SAFE.

BANK VAULTS AND SAFES,

Of every description, made to order at short notice. A large stock of SAFES of all kinds constantly on hand.

Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the United States

1v17tf

NOBLE & FLEMING,
MACHINE WORKS,

No. 10 Stevenson street, near First,
SAN FRANCISCO.

Particular attention given to repairs on Portable and Stationary Engines; also all kinds of Wood Working Machinery; Shaftings, Hangers, Pulleys, etc. made to order; Screw Cutting, Iron Planing, and all kinds of JOB WORK promptly attended to.

Agents for F. S. Perkins' Engine Lathes, Planers, Upright Drills,

And all kinds of MACHINISTS' TOOLS; also the Davis Wood Planer and Mitre Dove-Tailing Machines.

CITY IRON WORKS COMPANY.

CLERC & CO.,

IRON FOUNDERS,

Steam Engine Builders and Makers of all kinds of Machinery,

6v16qr No. 28 Fremont street, San Francisco.

STOCK CERTIFICATES,
STOCK TRANSFER JOURNALS,
STOCK LEDGERS,
ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press.*

Resources and Developments.

GROWING NUT TREES.

It is somewhat surprising,—says the *American Agriculturist,*—that with all our nation's love of gain, and the general appreciative admiration of beautiful trees for shade and ornament, we have so few instances where nut-bearing trees have been adopted for planting in the place of maple, elm, or linden. The chestnut, butternut, black walnut, and Madeira nut, where the climate will admit, are all beautiful as shade or ornamental trees; they grow very rapidly, and come into bearing usually from the seventh to the tenth year from seed. The hickory is more difficult of transplanting; but even that may be moved with success by digging deep and obtaining entire, the tap-root. This tap-root is a feature of importance with all the nut-bearing trees, its loss often resulting in the death of the tree, while, if fully retained, a tree rarely dies. It is however, more certain, and probably most economical, to plant the nuts where trees are designed to stand. This may be done and the ground yearly cropped to corn, potatoes, or small fruits, and at the end of five years or so it may be left in grass if desired.

As a paying productive crop, as a permanent investment, attended with little or no labor in the cultivation or pruning, etc., we know of nothing more reliable than that of an orchard of nut-bearing trees. The chestnut commands a ready sale at from eight to twelve dollars a bushel in the Eastern States, while the hickory nut sells freely at from two to three dollars; and these prices are being enhanced rather than reduced.

The *Agriculturist* speaks of an orchard of nut-bearing trees of sixty acres, twenty-five years old, from which the owner, last year, gathered fruit which netted him over $600. These trees stand in an open pasture, the cropping from which is scarcely diminished a dollar in consequence of its partial appropriation as above.

If such results can be obtained in the Atlantic States, where the fruit sells for a small price, what might not such culture do here, where extraordinarily high prices prevail, where the timber would be worth twice what it is at the East, and where the trees come into bearing condition in one-half the time required there? Twenty acres of ground planted to-day with nut-bearing trees, in this State, will be worth a small fortune in fifteen or twenty years hence. What better legacy could be left to a child, or what more profitable enterprise could be undertaken by a young farmer just setting out in life? The cost would be mere nothing—as the labor could all be done in the leisure time of two or three years. Perhaps no better soil in the world could be found for such culture than that of the foot-hills of this State, and on land which is lying in waste, in tracts of hundreds of acres in extent.

THE CORK OAK.—The Cork Oak appears to have been successfully introduced into Florida. A gentlemen in that State planted a number of the cork oak acorns, in 1860. Some of the trees from these acorns are now eighteen inches in circumference and from sixteen to eighteen feet high. They are said to stand the climate well. Quite a number of these trees were planted a short time since in Los Angeles County, and the fact of their successful growth in Florida may be taken as a full assurance that even better results may be anticipated on this coast, where the extremes of heat and cold are less than on even the most southern portion of the Atlantic border.

CHICORY.—Although large amounts of chicory are raised in California, it would seem that there is yet an abundance of room for an increase of the home product, as there are at least 250 tons of the root imported annually. So long as our people are determined to be humbugged, it is better perhaps, that the profits of such traffic should accrue to ourselves, rather than that they should be transferred to strangers. In this connection it may be interesting to coffee drinkers to learn the fact that

chicory can be purchased in this market for eight cents per pound, while, after it is mixed with coffee, consumers have to pay for it at the rate of from twenty-five to thirty cents.

WOOLEN MANUFACTURES.—There are in Illinois some 123 woolen manufactories, besides eighty-seven wool carding machines, which consume annually about 7,000,000 pounds of wool, clipped from not less than 2,500,000 sheep. There is no reason why California may not even exceed Illinois in this branch of industry, and it is one of the most promising signs of the times to notice that investments of capital in this direction are both increasing and prosperous. California is destined to become one of the greatest wool-producing and wool-manufacturing States in the Union.

THE LIME BUSINESS.—The manufacture of lime forms quite an important feature in the industrial resources of many portions of the State, particularly in the county of Santa Cruz, where, from the proximity to this city, it must eventually grow to mammoth proportions, if the supply is sufficient. With regard to this the *Sentinel* says: "The supply of lime rock is inexhaustible, of the blue, grey, and crystallized varieties; in most localities where the rock is found, the land is covered with timber, to be used in burning. The shipping point is from one and a half to three miles distant, with a gradual descent nearly the whole way, an ordinary team hauling five tons at a load, on wagons built for that purpose. These natural advantages bid defiance to competition from any other portion of the State. The business was first started on a small scale by parties without means except their own labor, but their success soon attracted the attention of men of capital." The shipments made by one firm in this county, reaches sixteen hundred barrels per month, which amount can be readily increased four or five fold whenever the demand will warrant the same.

THE SEAL FISHERY, on our northern coast, promises to be very lively the coming season. Quite a number of vessels are already at the Seal Islands, or on their way thither. Special agent, Charles Bryant, is on the ground, by this time, with full powers and means to enforce the law relative to these fisheries.

GEO. E. ROGERS,
(Successor to G. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qr10junr

PACIFIC
INSURANCE COMPANY
OF SAN FRANCISCO, CAL.,
Office, No. 422 California street.

Cash Assets, Jan. 1, 1869, - - $1,539,740 18

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MARINE,
AND
INLAND
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RODGERS, MEYER & CO.,
COMMISSION MERCHANTS,
ADVANCES MADE
On all kinds of Ores, and particular attention
PAID TO
CONSIGNMENTS OF GOODS.
4v16-3m

CARD PICTURES,
ONE DOLLAR PER DOZEN,
And Photographs, Ambrotypes and Sun Pearls, by first class artists, at the lowest rates,
At SILVA'S, 61 Third Street,
Northwest corner of Mission. - - - - - San Francisco.
11v18-3m

NATHANIEL GRAY. H. M. GRAY.
N. GRAY & CO.,
UNDERTAKERS,
641 Sacramento St., cor. Webb, San Francisco.
☞ Sole Agents for Barstow's Metallic Burial Cases and Caskets.
25v14tf

Farmers and Mechanics
BANK OF SAVINGS,
No. 227 Sansome Street.
Interest paid on Deposits. Money Loaned on Real Estate.
H. DUTTON, President.
GEO. M CONDEE Cashier. 19v16-3m

J. J. JONES,
CARPENTER and BUILDER,
No. 324 Jackson street, between Sansome and Battery,
Stores and Offices fitted up with neatness and dispatch.
7v18tf

W. T. ATWOOD,
PURCHASER OF
COPPER ORES, BARS, MATT, Etc., Etc,
505 Montgomery street, San Francisco.
The highest market price paid for ores assaying 10 per cent. and upwards. 23v17qr

S. FOLK. G. TUCHOLSKY.
S. FOLK & CO.,
MANUFACTURERS OF
WADDING, BATTING, and COMFORTERS
441 and 443 Brannan st., Between Third and Fourth,
SAN FRANCISCO. 4v18qr

W. C. CAMPBELL.
PATTERN AND MODEL MAKER,
No. 20 Fremont street, over Phœnix Iron Works, San Francisco.
Particular attention given to MODELS for the Patent Office Brands and Pattern Letters Cut. 4v18m1f

Farms and City Property.
C. H. WAKELEE & CO.,
601 California street, S. W. Corner Kearny street, buy and sell Farms and City Real Estate. Parties wishing to invest will find it to their interest to call on them. 13v18-3m

CALIFORNIA
Marine Metallic Paint.

This Composition, the result of scientific and chemical research, after having been thoroughly tested for the past twelve months, is now offered for sale by the "California Marine Paint Co" incorporated March 25, 1869. The experiments to which it has been submitted, have proved that it is one of the most valuable discoveries of this wonderful age of invention. It has been extensively used in painting the bottoms of all kinds of sailing vessels, wood, iron and copper, and with invariable success. Wooden bottoms, piles, etc., are thoroughly protected from the destruction of the *teredo navalis*, or sea worm; and iron vessels effectually preserved from the adhesion of barnacles, grass and all descriptions of zoophytes, no injury whatever resulting to the plates, as frequently occurs from the use of copper, and other pernicious paints; but, on the contrary, its known properties will preserve them.

By the use of this Paint, coppering vessels is rendered unnecessary; but where a vessel has been coppered it will not only keep it from fouling, but preserve the copper from the ordinary wear and tear, amounting to 10 per cent. per annum, and render it almost indestructible.

It is also invaluable for the preservation of all wooden structures, especially railroad timbers, bridges, floor beams in houses, telegraph posts, and is a certain preventive against the action of the white ant and cemugen of Mexico, China, and India.

The company are now prepared to supply all orders, and enter into contracts for the application of this Paint.

Orders and communications in regard to terms, addressed to Capt. R. H. Waterman, President; James Pollock, Superintendent Dry Dock; or L. L. Bullock, Tide Land Commissioner, will receive prompt attention.

R. H. WATERMAN,
President of Company.
LLOYD TEVIS,
JAMES POLLOCK,
L. L. BULLOCK,
SCOTT TIDRALL,
THOS. A. TALBERT,
Trustees.
JOHN S. ROLLS, Secretary.
San Francisco, March 29, 1869. 15v18-1m

California Steam Navigation
COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE
" CHRYSOPOLIS.....CAPT. A. FOSTER.
" YOSEMITE.....
" CORNELIA.....CAPT. W. BROMLEY
" JULIA.....CAPT. E. CONCKLIN.

Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville Colusa, Chico, and Red Bluff.

Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE,
President.
13v12

ILLINOIS
SILVER MINING COMPANY
White Pine District.

Trustees:
JAS. H. CUTTER, R. H. FREEMAN,
E. H. SHAW, JAS. R. GARNISS,
DAVID BUSH.

The Company's Mine adjoins the celebrated "Silver Glance," and is in close proximity to the "Argyle," and other prominent mines of the District.

From developments already made, the Trustees feel justified in saying to their friends that this is one of the best opportunities ever offered for investment in this State.

For the purpose of further developing the mine, the Company has set aside a limited amount of stock, to be sold as a working capital, of which they now offer 1000 shares, at the nominal price of $2 50 per share, unassessable—the entire proceeds of which will be devoted to developing the mine.

The books of the Company are now open for subscription at the office of the Company, No. 432 Montgomery street, Room No 1, first floor. By order.

JAS. H. CUTTER, President.
G. W. STEWART, Secretary.
15v18-3m

ONE THOUSAND SHARES
—OF THE—
UNASSESSABLE STOCK
—OF THE—
Nantucket Mining Company

Are offered for sale at ONE DOLLAR PER SHARE, for the purpose of raising a fund to aid in the development of the mine. The mine is located on TREASURE HILL, about half a mile west of Treasure City, adjoining the "Salt Point on the east. No other issue of this stock will be offered at less than $2,50 per share, the object being to raise a small fund for the immediate prosecution of the work. The Trustees, in offering this stock, confidently believe it to be ONE OF THE BEST INVESTMENTS in the market. Subscription Books now open at the office of the Company, No. 610 Montgomery street. By order of the Board of Trustees.

W. H. BROWN, President.
15v18-1m H. B. CONGDON, Secretary.

Bromide Tunnel Company,
White Pine, Nevada.

NOTICE.

The above Company having been incorporated under the laws of the State of California, has opened a Subscription Book for subscribers to its Capital Stock, at

No. 10 Stevenson Building, San Francisco,

Where full particulars relative to the working of the Company's property can be ascertained. 13v18-1m

Pump Leather.

The attention of MINING COMPANIES, and others requiring a superior article for Hydraulic purposes, is invited to the heavy Oaked Tanned Pump Leather, manufactured and prepared expressly by the undersigned.

TRADE SANTA CRUZ TANNERY E. JONES & Co MARK.

Constantly on hand and for sale by
GRAY, JONES & CO.,
Depot of the Santa Cruz Tannery,
418 Battery St., San Francisco.
25v17-1y

The Perfection of Prepared Cocoa.
MARAVILLA COCOA.
Sole Proprietors—TAYLOR BROTHERS, London.

The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skilful application of their soluble principle and elaborate machinery, produced what is undoubtedly the perfection of Prepared Cocoa, that it has not only secured the preference of home spaths and cocoa-drinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.

"A SUCCESS UNPRECEDENTED."

[See following extract from the Globe of May 14, 1868.]

"Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adapting their perfect system of preparation to this finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.

Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.
6v18-1y

Professional Cards.

J. S. PHILLIPS, M. E.,
CONSULTING ENGINEER,
Examiner of Mines, etc.,
423 Washington street.....San Francisco.
[Having had 33 years' experience in Europe and America,] supplies drawings and designs for Pumping, Hoisting, Crushing, Separating, Roasting, Chlorinizing, Milling, Lixiviating, Precipitating, and Smelting Works. Minerals analyzed, and advice given for beneficial treatment. Lessons on the Discrimination and Assay of Minerals by Blowpipe, Chemicals, Scorifier and Crucible. 4v17tf

JOHN ROACH, Optician,
Has removed from 522 Montgomery street to
540 Washington street,
East of Montgomery.
Surveying Instruments made, repaired and adjusted
22v17-3m

DAVID R. SMITH,
Civil and Mechanical Engineer,
Is prepared to furnish Plans, Models, Specifications and full detail Drawings for Steamers and Sailing Vessels and Machinery in general.
Montgomery Block. 13v17-3m

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
Court Block, 636 Clay Street
SAN FRANCISCO.
2v15-1qy

GILES H. GRAY. JAMES M. HAVEN.
GRAY & HAVEN,
ATTORNEYS AND COUNSELORS AT LAW,
In Building of Pacific Insurance Co, N. E. corner California and Leidesdorff streets,
27v16 SAN FRANCISCO.

MEUSSDORFFER,
HAT MANUFACTURER
And dealer in
Hats and Caps
AT WHOLESALE AND RETAIL.
635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of O and Second streets.....Marysville.
72 Front street.....Portland, Oregon.
Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

THE GIANT
POWDER COMPANY
Is now prepared to fill all orders for
GIANT POWDER,
Put up in Boxes, either in Bulk or in Car tridges.
General Agents,
BANDMANN, NIELSEN & CO.,
25v16-3m 210 Front street, San Francisco.

CARLOS O'DONNELL'S
California Cordial Tonic,
—OR—
Wild Cherry Bitters.

TRADE C. O. D. MARK.

This elegant preparation is acknowledged by all who have used it to be the most efficient remedy for every disease of the
STOMACH AND BOWELS,
Yet introduced to the notice of the public. Immediately on taking a dose of it, the patient will find a genial glow pervading his entire system, and its steady use for a short time will be followed by a healthy appetite and a good digestion, even in the case of the most confirmed dyspeptic.

To all who are suffering from
INDIGESTION,
DYSPEPSIA,
DYSENTERY,
DIARRHŒA,
NERVOUS AFFECTIONS,
Or any of the manifold troubles caused by a diseased action of the stomach, this remedy is confidently recommended as a safe and certain cure.

N. B. JACOBS & CO., Sole Agents,
15v18-3m 423 Front street, San Francisco.

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. BUFFINGTON,
Room 37 New Merchants' Exchange, California street
San Francisco 17v15-1y

Agricultural.

Cultivation of Dry Land.

The idea that the dry plains of California are utterly useless for cultivation, without irrigation, is fast becoming exploded. True, irrigation of such land to a certain extent, if it can be obtained, cheaply, is advantageous; hut farmers who till only small portions of moist lands, or such as they can readily irrigate, and suffer large tracts of adjoining dry land to lie idle, are making a great mistake. Experience has proven that much of this dry land will produce good crops of grain, clover, the mulberry, grapes and other products, without irrigation. The secret of the auccessful cultivation of dry land lies in deep plowing aud fallowing. Plow *deep* and fallow when necessary—fallowing is always advantageous. Plow in early spring, and do not put it off till summer, especially on clayey soils. Subsoiling will generally, nay always pay.

It is useless to argue that dry land cau he put iu order for crops hy shallow plowing. The Belgians, who are the best farmers in the world, assert that it is advantageous to stir the ground, if possihle, three feet deep. The roots of all plants will go down for moisture, till they fiud it, if the ground is iu proper condition. That is the reason why the vine, in this State, stands the drouth hetter after the second year,—the roots have got down where they can find moisture. It is much hetter to cultivate a little land well, than to merely run over a large surface superficially. It is too apt to be the case that less attention is paid to the cultivation of poor soil, than rich; the reverse *should* be the rule—if either is to be slighted. If land is worth plowing at all, it is worth plowing well.

Experiments on dry lands have been made in various parts of this State, which have surprised all who have become acquainted with them. Mr. G. N. Sweezy, Esq., late, if not now, President of the Northern District Agricultural Society, among others, has made important and successful experiments in this direction, on the dry plains near Marysville. Those lands, he says, yield well in grain and are good orchard lands; the grape and mulberry also do well upon them.

Deep plowing and thorough cultivation retains the rains of winter, and retards the rapid evaporation of summer. The red hills of the mountains, that were considered worthless a few years since, it is now known will produce good crops, if properly cultivated. Scratching land, however, it should he borne in mind, is not proper cultivation. These facts, if our farmers will only consider and act upon them, will be worth, in a few years, millions of dollars to the State. Small experiments cost hut little; if those interested, who are doubtful of these sayings, will only hegin slow, select a small tract, work it thoroughly and note the result,—our word for it, they will not fail to put money in their pockets at the end of two years.

BLEEDING OF GRAPE VINES—HOW TO STOP IT.—The excessive hleeding of grape vines over that of other plants, when pruned late, is due to the larger size of the vessels through which the sap is propelled, at the periods of early growth. The vessels of the vine lack the power possessed hy those of most other plants to collapse sufficiently to prevent any excessive flow of the sap, as it is received from the roots. The consequence is the plant becomes unhealthy and unproductive for the scason, and sometimes flows itself to death. The reason why there is less flow when the vine is wounded in the full of the leaf, is hecause at that time the demand upon the system by the leaves is so great that there is no surplus sap in the vine to fiud its way out through the wound.

It often hecomes necessary, however, to remove a portion of a vine when the sap is in full flow; or it may be accidentally wounded at such a time, and various expedients are adopted to prevent the consequent flow. Gum shellac paste is often used, but generally with very little effect; raw potatoes are also used with less effect. Shoemaker's wax is sometimes used. Probably the most perfect remedy, which is given by a correspondent of the *American Agriculturist*, is the following: Take four parts of scraped cheese to one part of calcined oyster shells or other pure calcareous earth. If this preparation, without any admixture with water, be pressed strongly into the pores of the wood, and the wound be closely covered with it, and bound in place, if necessary, the sap will cease to flow, so that the largest grape vine hranch may he safely taken off at any season of the year.

TO OBTAIN FRUIT FROM BARREN TREES. This may almost always he done, especially when the growth of the tree is vigorous, by windiug and tying a small cord or stout string two or three times tightly around some of the principal limhs, or if a young tree is to be operated npon, around the body of the same. This should be done in early or middle summer, and the effect will he seen in the ahundant blossoms of the next spring. The cord prevents the sap from returning so freely as it otherwise would to the roots; consequently it performs its legitimate office of forming fruit buds. This plan is similar in effect to "ringing the grape vine," and is frequeutly made use of by fruit-growers iu the Eastern States, to hasten the bearing of young trees. That, however, is a matter seldom required in this State. Our trees are naturally inclined to bear quite too young, for their after usefulness. Yet it not unfrequently happens in our older trees, that, from some cause or other, the sap descends too freely or too early in the season for the proper formation of fruit buds, and the consequence is, a lack of fruit the next year. Wire is sometimes used for this purpose; but if either wire or cord is used, they must be carefully removed before the next year's growth, or they will cut into and deform the tree or limh. Lead wire has been used to some extent; and it is decidedly preferable for the reason that it compresses the bark sufficiently to accomplish the result, while it gradually yields in length with the growth of the branch, until it finally breaks and drops off.

CALIFORNIA SEEDS AT THE EAST.—Nursery men at the East are giving earnest heed to the wonderfully productive growth of California, aud are taking active measures to secure seeds, trees, shrubs, and plants from this State. Large amounts of garden and other seeds have already found their way to Easteru farms aud gardens, where they have fully established their superiority over those grown upon the worn out soils of older lands. An interchange of seeds is always advantageous; and especially so when they are transferred from new to old soils. There seems to be an invigorating influeuce infused into almost everything of California growth which tells most unmistakahly when transferred to other soils. Europeau nurserymen have not been nnmindful of these facts, and are seeking to improve the products of their farms and gardens, also, by the same means. If nurserymen, seedmen, florists and others, in the Eastern States and Europe, would pay still more attention to the agricultural and horticultural productions of our State, they and the world at large would be decided gaiuers.

GOOD CROPS AT THE EAST.—Intelligence from the great wheat-fields of Ohio, Indiana and Illinois, are to the effect that the appearance of the fields promises an unusual large crop for the present season. Good crops and general prosperity aro so clearly allied that the latter is quite certain to follow the former, and become general throughout the country at large.

A BEECHERISM.—Some one recently suggested to Beecher that he might accomplish much good by traveling ahout the country and preaching to the people of various sections. His reply was, "It is better for the United States to go through my church than for me to go through the United States."

New Mining Advertisements.

North American Wood Preserving Company.
Location of Works: San Francisco, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twelfth day of March, 1869, the several amounts set opposite the names of tho respective shareholders, as follows:

Names.	No. Certificate.	No. snares	Amount.
Geo W Cent	1	400	$400 00
Benj R Nickerson	29	20	20 00
Benj R Nickerson	30	20	20 00
Benj R Nickerson	31	5	5 00
Benj R Nickerson	32	5	5 00
John L Samuels	33	100	100 00
John L Samuels	36	50	50 00
John L Samuels	unissued	150	150 00
Henry S Dent	unissued	200	200 00

And in accordance with law, and an order of the Board of Trustees, made on the twelfth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on the first day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. B. LAKE, Secretary.
Office, 430 Montgomery street, San Francisco ap17

Siempre Viva Silver Mining Company, District of Zarigossa, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of April, 1869, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.
Office, 318 California street, San Francisco. ap17

The Annual Meeting of Stockholders of the Daniel Webster Silver Mining Company, will be held on MONDAY EVENING, May 10th, at 7½ o'clock, at the office of the Company, No. 418 California street.

ap17-4w C. A. UHRIG, Secretary.

The Annual Meeting of Stockholders of the Williamantic Silver Mining Company, will be held on TUESDAY EVENING, May 18th, at 7½ o'clock, at the office of the Company, No. 418 California street.

ap17-4w C. A. UHRIG, Secretary.

Mining Notices--Continued.

Cordillera Gold and Silver Mining Company.— Morelos District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twentieth (20th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the tenth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary.
Office, 321 Washington street, San Francisco. mar20

Daniel Webster Mining Company.— Location of Works: White Pine County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of April, 1869, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the tenth day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of May, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

C. A. UHRIG, Secretary.
Office, No 418 California street, San Francisco.

Golden Rule Mining Company, Tuolumne County, California.—Regular Bi-monthly dividend (No. 19) of the Golden Rule Mining Company, of Tuolumne County, Cal., of 2½ per cent. per month, or fifty cents per share, is now declared, and will be paid to the Stockholders on and after the 26th inst. Office, 432 Montgomery street, Room No. 5.

J. B. RUSSELL, Secretary.
W. T. BOSWORTH, President.
A. S. PHIFER, Superintendent of Mine. ap10

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth (6th) day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John Amos	58	1	$1 00
A Birrell	17	10	10 00
A C Teitman	16	82 11-13	82 84
A C Teitman, Trustee	51	11 6-13	11 46
A C Teitman	59	64 8-13	61 61

And in accordance with law, and an order of the Board of Trustees, made on the sixth (6th) day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on Monday, the twenty sixth day of April, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.
Office, Room 37 New Merchants' Exchange, California street, San Francisco. ap10

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-third day of January, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Baum, Charles	2	20	$15 10
Baum, Charles	63	50	37 50
Borel, F A	79	200	150 00
Borel, F A	81	100	75 00
Borel, F A	81	50	37 50
Borel, F A	84	50	37 50
Borel, F A	122	207	155 25
Durning, Charles	60	100	75 00
Gordon, John	18	75	56 25
Gallagher, James	50	100	75 00
Hardy, Thomas	21	300	225 00
Lehman, Chr	24	5	3 75
Leavitt, John	25	250	187 50
Murdock, C A	105	100	75 10
Murdock, C A	106	150	112 50
Murdock, C A	120	39	29 25
Probst, Kruse	117	3	2 25
Vanderwoort, J E	28	50	37 50
Wentzell, Justus	123	2	1 50
Wilson, E	96	50	37 50

And in accordance with law, and an order of the Board of Trustees, made on the twenty-third day of January, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Boro & Co., auctioneers, No. 327 Montgomery street, San Francisco, Califo nia, on the twenty-seventh day of April, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N VAN BRUNT, Secretary.
Office 426 Montgomery street, San Francisco. p

Pacific Coal Mining Company, Contra Costa County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of March, 1869, an assessment of four dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventeenth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. LACHMAN, Secretary.
Office, southeast corner Market and First streets, San Francisco. mar27

Star Creek Mining Company.—Location: Star District, Humboldt County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the twenty-sixth day of February, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Babb, L H	unissued	6	$0 60
Bates, A B, Att'y	unissued	10	214 50
Davis, Erwin	unissued	2	776
Davison, R S, Att'y	unissued	9	200 00
Faulkner, George	unissued	12	1000 00
Kent, Wm M	unissued	1	530
Levingston, Isaac	unissued	8	108
Minturn, Charles	unissued	7	100
Morrison, S A	unissued	5	100
Phelan, James	unissued	11	72

And in accordance with law, and an order of the Board of Trustees, made on the twenty-sixth day of February, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the nineteenth day of April, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HORACE MORRISON, Secretary,
Office, N. E. cor. Front and Jackson streets, ap3

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco mar27

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco. mar27

Troy Ledge Mining Company, White Pine District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on Friday, the twenty-third day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
Office, 37 New Merchants' Exchange, California street, San Francisco. mar20

MORNING NAUSEA.—To be sick at the stomach at the hour when healthy people are hungry for breakfast, is a very unpleasent thing. Yet there are thousands of both sexes who "feel just so" every morning of their lives. Persons who suffer from morning nausea—or from nausea at any time of the day—ought to know that their organs of digestion are in a bad state, and overloaded with crude bile. The remedy—an absolute specific in all such cases—is a course of DRAKE'S PLANTATION BITTERS. Their effect will be to tone the liver and stomach and gently relax the bowels, and before the invalid has taken this pleasant yet potent medicated stimulant for a week, he or she will have no occasion for a physician, but urgent need for the services of a cook. *

Work at the Foundries.

MINERS' FOUNDRY.

Three of Paul's dry amalgamation barrels have been made in all at the Miners' Foundry—the first one (already noticed) for Silver City, Nevada, another for Arizona, which has been shipped, and one just completed for Kearsarge District, Inyo County; severally of the size to work half a ton.

Two additional Howland's Rotary Stamp Mills have been made; one for Georgetown, El Dorado County, and one for Silver Peak, Southern Nevada. A fine wooden model of this mill may be seen at the Miners' Foundry.

The newly-invented rotary valve engine of Mr. Howland, seems to be well thought of, a strong point claimed in its favor being its economy. A 24-horse-power engine costs $1,500. One of these has just been made for Georgetown, and another for White Pine.

The artesian well borers at this establishment have struck bedrock at 220 feet depth. A pump is put down 150 feet, and water enough is gradually drawn to the spot by it, from surrounding moist earth, to answer every purpose.

A patent portable cupola smelting furnace for a Mr. McCormick, who is understood to be a practical smelter, is about to be constructed here with a view to smelting rich base metal ores in different localities in Nevada. Mr. Stewart, the ore worker at the Miners' Foundry, has recently been working thirty-five pounds of White Pine ore raw, with thirty-two pounds of amalgam as the result. Mr. Strong, on Stevenson street, generally roasts his White Pine test lots; a matter which should depend, of course, upon the mineral ingredients.

FULTON FOUNDRY.

A rotary engine of the Reichart patent, and a Poppet engine for a steamboat, are being made here.

VULCAN FOUNDRY.

The White Pine Water Company's machinery is rapidly progressing, viz., four boilers sixteen feet long, fifty-four feet in diameter, and four check valves for the air chambers of the pipe line. The engines and pumps (four) are being made at Stoddart's; and the pipe, 9,000 feet in length and twelve inches in diameter, of 1-16, 1-8, and 3-16 inch thickness, at Risdon's.

Extensive jobs have been done for the California Sugar Refinery, on Brannan street, viz: two "blowers" have been made, to blow up impurities, (somewhat on the Bessemer principle), in the refining process; one vacuum pan ten feet in diameter; a 24-inch engine, four foot stroke; two water pumps, 12x36; two air pumps, 12x36; one large hoist; four boilers sixteen feet by sixty inches; and multitudinous appurtenances.

Some interesting experiments have been made in this establishment in regard to the economy of grinding ores fine, after attaining a certain grain, in the Hepburn pan grinder; showing unexpectedly favorable results in favor of that method, as we are informed. Hepburn uses disks of iron, three inches in diameter and an inch in thickness, in his pan, which are shoved around on the bottom in such a manner as to grind against each other. Comparative figures with other methods as to economy of grinding, are promised us.

There are besides a 54x16 boiler for the Mission Woolen Mills; several small engines and boilers for La Trinidad mine, back of Guaymas, and other mines in Mexico; a 30-inch turbine for a 35 horse-power sawmill near Red Bluffs; and a 6-inch force pump for the Eureka mine, Grass Valley.

PACIFIC FOUNDRY.

A 20-stamp quartz mill; a heavy hydraulic press for the Santa Cruz Powder Mills; another hydraulic press for hay-packing; four 10-inch double-acting pumps or Von Schmidt's White Pine Water Works; a locomotive for the City Grading Company, a corporation organized for grading lots in the suburbs; and a number of miscellaneous jobs, are keeping this establishment in the usual state of activity.

GOLDEN STATE FOUNDRY.

Palmer, Knox & Co. have been making velocipedes by the hundred. A portable self-moving engine, having its wheels connected with the machinery by chain gearing, and carrying the thresher on a frame in front of the engine, is being made for a Mr. Jackson. A similar engine for a Blake's rock-breaker, is being made for T. L. Walker & Co., to be used for macadamizing streets in Oakland. Some small mills are in hand. A number of very large centrifugal grinding pans and separators, of the Hurdy pattern, are on the sidewalk, ready to take their departure for the Stephenson mill, Gold Hill.

Railroad Items.

STOCKTON AND TULARE RAILROAD.—It is rumored that the project of raising $300,000 to build the Stockton and Tulare Railroad is hanging fire, under the plea that the amount named is not enough to complete it. This objection is met by the friends of the project, with the assertion that the same is quite sufficient to *commence* it, and that when once commenced, and a short section put in working order, the advantages of the road will become so apparent that no difficulty will be found in getting whatever further amount will be needed to complete the same. The people of Stockton will be false to their own interests if they suffer the project to fall through.

WHAT RAILROADS DO FOR FARMS.—We commend the following suggestions from the *American Agriculturist* to our Stockton friends who are hesitating to come down with the necessary funds to start the proposed railroad out into the rich agricultural district to the south of that city. The calculations here submitted will apply with greater force in California where the cost of ordinary transportation is higher than it is in the Eastern States. The *Agriculturist* says:

To haul forty bushels of corn fifty miles on a wagon would cost at least $12 for team, driver and expenses. A railroad would transport for $4 at the most. Allowing an average of forty bushels per acre, the crop would be worth $8 per acre. As the relative advantage is about the same for other crops, it is clear that a railroad passing through a town would add $100 per acre to the value of the farms. A town ten miles square contains 64,000 acres. An increase of $100 per acre is equal to $6,400,000, or enough to build 200 miles of railroad, even if it costs $32,000 per mile. But 200 miles of road would extend through twenty towns ten miles square, and costs but $10 per acre, if taxed upon the land! These figures are given merely as an illustration. If the farmers had taxed themselves to build all the railroads in this country, and given them away to any companies that would stock and run them, the present increased value of their land would have well repaid all the outlay.

INCREASED PATENT FACILITIES.—A bill has been introduced into Congress to allow an increase in the number of examiners in the Patent Office. This is a matter which is greatly needed, and we trust the bill will speedily become a law. It is no more than right that inventors should have a more prompt and efficient examination of their cases. As it is, there is not only oftentimes a most vexatious delay in the examination of applications for patents; but, through the crowd of business that is forced upon the examiners, their work is not done with that care and discrimination which is desirable.

STOCKTON, April 8th, 2869.

MESSRS. DEWEY & CO.:—Your favor of the 6th inst., accompanying patent for improvement in horse shoes, is received. I beg you will accept the earnest assurance of my gratitude for your kind assistance and valuable services. Very truly yours, W. R. WATSON.

New Incorporations.

Much activity is shown this week in the formation of companies for the undertaking of fresh enterprises in mining and manufacturing, etc. No better evidence could possibly be adduced of the inviting resources of our extensive undeveloped domains, so long as the objects set forth are real; a point which can best be determined by the names and antecedents of the parties concerned, when the genuineness of the project is not of itself apparent.

As a new and promising field for the extension of the usefulness of the joint stock idea, the *Bulletin* of the 16th suggests that the homestead principle, which has worked so well when applied to city and suburban lots, might be used with good effect in dissolving some of the large land grants, which by being held so long beyond the reach of all improvements, have greatly retarded the prosperity of the State.

Parties associating on the homestead plan, says the *Bulletin*, could buy and manage one of these grants to great advantage, when the aggregate cost would be beyond the reach of a single individual of moderate means. An additional value would be given by concerted improvements as to roads and other facilities; and small farms might be readily secured in this way notwithstanding the general advance in prices, at moderate cost to the purchasers.

Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

MINING.

LEE S. M. Co.—White Pine, Nev. April 9th. Capital stock, $1,000,000; 10,000 shares, $100 each.

EASTERN ENTERPRISE S. M. Co.—White Pine, Nev. April 9th. Capital stock, $1,000,000; 10,000 shares, $100 each.

EVENING STAR, No. 1, S. M. Co.—White Pine. April 10th. Capital stock, $1,800,000; 8,000 shares, $100 each. Trustees: G. W. Beaver, H. G. Brown, M. J. McDonald, J. S. Kennedy and W. R. Wheaton.

MADDEN M. Co.—White Pine. April 10th. Capital stock, $4,000,000: 40,000 shares, $100 each. Trustees: W. R. Maurice, Henry Baker, B. B. Minor, James Kellogg and W. Wilson.

ENOCH ARDEN S. M. Co.—White Pine, Nev. April 10th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees; Wm. B. Lake, Oliver S. Hateh and P. H. Boggs.

TEVIS S. M. Co.—White Pine, Nevada. April 12th. Capital stock, $800,000; 8,000 shares, $100 each.

WYOMING S. M. Co.—White Pine, Nev. April 13th. Capital stock, $1,400,000; 14,000 shares, $100 each.

STOCKTON M. Co.—April 13th. Capital stock, $720,000; 7,200 shares $100 each.

EMANUEL M. Co.—White Pine, Nevada. April 18th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: A. G. Stiles, J. McMahon, E. B. Wilder, N. C. Fassett and J. C. Wilmerding.

LUDLOW M. Co.—White Pine, Nevada. April 18th. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: Jacob Rommel, Geo. H. Eggers, M. D. Hyneman, H. Bruns and J. H. Gardner.

ANGOSTURA S. M. Co.—White Pine, Nev. April 18th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: J. Preston Moore, Henry C. Swain, J. R. Garniss, Wm. J. Stringer and R. N. Van Brunt.

GREEN MOUNTAIN S. M. Co.—White Pine, Nev. April 18th. Capital stock, $1,400,000; 14,000 shares, $100 each. Trustees: J. T. Hoyt, A. J. Gove, A. T. Fletcher, D. B. Stacy and Frederick Medue.

LAND AND HOMESTEAD ASSOCIATIONS.

FLINT TRACT HOMESTEAD ASSOCIATION. San Francisco. April 10th. Capital stock, $324,000; 5,600 shares, $600 each. Trustees: J. DeForest, J. W. Jordan, H. N. Tilden, Jas. Palache, Gilbert Palache, Wm. Hollis, Edward Barry, J. L. Jonos and Wm. Sutton.

SCHOOL HOUSE EXTENSION HOMESTEAD ASSOCIATION.—San Francisco. April 10th. Capital stock, $31,500; 105 shares, $300 each. Trustees: J. W. Shaffer, John Kurtz, W. J. Gunn, Jos. Naphtaly, Charles T. Brown, D. S. Bachman and B. L. Brandt.

PIEDMONT LAND CO.—Alameda County. April 13th. Capital stock, $800,000; 8,000 shares, $100 each. Trustees: Lucius A. Booth, G. W. Beaver, Jas. Gamble, Henry S. Hudson and Geo. H. Mumford.

SAN MATEO LAND ASSOCIATION.—Redwood City. April 14th. President, John Kurtz; Secretary, I. T. Milliken; Treasurer, A. Seligman; Trustees, W. B. Cummings, George Platt, B. H. Ramsdell, Frank Soule and B. H. Freeman.

CITY HALL HOMESTEAD ASSOCIATION.—San Francisco. April 14th. Capital stock, $76,800; 128 shares, $600 each. Trustees: Wm. Monahan, T. P. Riordon, John Regan, B. B. McAllister, M. Meagher, J. C. Maynard and Owen McMahon.

SAVINGS.

MARYSVILLE SAVINGS BANK.—Secretary and Treasurer, Frank W. Aaron; Trustees, J. S. Belcher, Chas. M. Patterson, R. G. Stanwood, M. Marcuse and D. E. Knight.

ELECTION OF OFFICERS.

STOCKTON GAS CO.—Trustees, Henry H. Haight, C. E. McLane and Joseph G. Eastland.

AURORA CONSOLIDATED S. M. Co.—April 12th. President, J. D. Fry; Secretary, Joel F. Lightner; Superintendent, Frank Drake; Trustees, Thos. Bell, H. G. Blasdel, Frank Drake, J. D. Fry and Frank Livingstone.

S. F. S. & B. ASSOCIATION.—April 12th. President, M. Waterman; Vice-President, H. Steinhoff; Treasurer, M. Sichel; Secretary, P. N. Feldtman.

PACIFIC GLASS WORKS.—April 12th. Trustees, John Taylor, D. N. Hawley, J. A. Folger, John Andersou and Edmund Marks.

DOUGLAS S. M. Co.—April 13th. President, J. L. Blaikie; Secretary, J. M. Buffington; Trustees, J. E. Douglas, Robert Riddle and C. W. Randall.

BULLION M. Co.—Trustees, Thomas H. Williams, D. W. Bixley, John Mackay, F. A. Tritle and H. H. Flagg.

A. JOHNSON IN A NEW CHARACTER.—It is reported that President Johnson will, immediately after his term of office ceases, go to Europe, for the purpose of negotiating the bonds of the El Paso and Pacific Railroad Company, if that company should get its joint resolution through the Senate, now on its table, giving it the right of way through the public land from El Paso to the Pacific. The resolution gives the company a perpetual right of way through the Territories; also incorporates it. On its face it appears to be very simple, but it gives the most valuable franchise which as yet has been asked of Congress. The company can in all time forbid any other company from constructing a road from El Paso to the Pacific on the 23d parallel. The franchise, some one estimates, will be worth five or ten millions of dollars. Mr. Johnson, they propose, shall become its President.—*N. Y. Stockholder, March 9th.*

HAYWARD & COLEMAN

IMPORTERS AND REFINERS

—OF—

Illuminating, Lubricating,

—AND—

PAINT OILS,

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO—

Spirits of Turpentine and Alcohol.

Lamps and Lamp Stock!

An elegant and complete assortment.

SOLE IMPORTERS OF

Devoe's Illuminating Oil

PATENT CANS.

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VARNEY'S
PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

ELLERY'S PATENT
India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,

Iron, Brick and Wooden Buildings,

SHIPS, STEAMBOATS, STAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

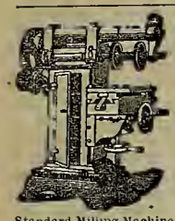
New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

GEO. T. BROMLEY, Agent,

Battery street, corner Jackson,

24v17-3m San Francisco.



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Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,
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Extra jaw, and heavy Vises. Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,500 lbs; small, 950 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

BLAKE'S QUARTZ BREAKER!
PRICES REDUCED!
MACHINES OF ALL SIZES FOR SALE
—BY—
WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077

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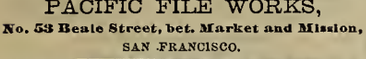
SAN FRANCISCO.



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2v17-3m **T. G. DURNING & CO**

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AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,
Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

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Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

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Are the manufacturers' agents for Richardson, Merriam & Co's celebrated
Wood Working Machinery,
Embracing every description of Planers, Matchers and Mortisers, Moulding, Tenoning, Boring, Shaping, Vertical and Circular Re-sawing Machines; Scroll, Railway, Cut-off and Rip Saws, etc., etc. Agents for the Swamscot Co's

Improved Portable Engines,

Warranted fully equal to any in the market; Davis & Furber's Woolen Machinery; Blake's Patent Steam Pumps; Kilburn's and Warren's Turbine Water wheels, etc., etc.

Orders for Machinery of any kind will receive prompt attention. Machines for special purposes built to order. Send for Illustrated Catalogue. W. O. M. BERRY & CO.,

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Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 1 Clay street, below Davis.

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Blacksmith and Machine Shop,
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All kinds of Edge or other Tools made to order. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted.

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PATENT
Boiler Scraper and Tube-Cleaner.

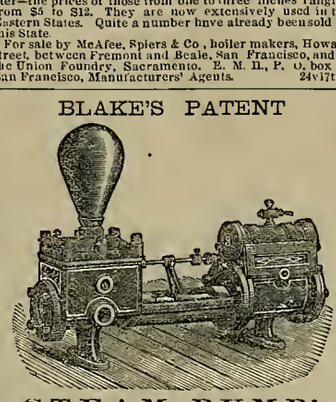
IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. H., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

BLAKE'S PATENT



STEAM PUMP!

This Pump is warranted superior to any in the market, for Breweries, Sugar Houses, Tanneries, Boiler-Feeders, Steamboats, Mining and Fire purposes, etc. It throws a full stream of the thickest beer mash without clogging, and sugar syrup boiling hot without difficulty.

Warranted a positive Pump under ALL circumstances; it never stops nor gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

☞ If one fails to do the work for which it is sold, it may be returned and the money will be refunded. May be seen in operation at Risdon's, or Union Iron Works, or at

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Agents for Pacific States,

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Iron and Metal Importing Company
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Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

Avery Pump and Tube Well.
Complete for Use.

The TUBE WELL is formed by driving prepared iron piping into the ground with a sledge. Although of comparatively recent invention, these wells have won a world-wide reputation, and are proven to be superior to the ordinary dug well, costing sometimes less than one-fourth that of others, and at the same time excluding the surface water and dirt. The tubing is coupled together in lengths of about six feet, as they are being driven into the earth; the valves are then dropped in and the Pump screwed down on top.

FORCE AND LIFT PUMPS

Always on hand. For ease of Working, durability and force, the Avery Pump has no superior. For circulars, etc., address Post Office box 17.

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OF SAN FRANCISCO.

Cash Capital, - - - - - - - $300,000

GOLD COIN.

Office S. W. corner of Montgomery and California streets.

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All Losses paid in U. S. Gold Coin.

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E. ROTHSCHILD, Secretary. 20v17-3m

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☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

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Manufacturer of
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(Over W. T. Garratt's Brass Foundry,

S. E. Corner of Mission and Fremont sts.,

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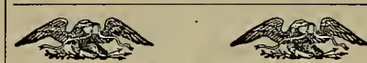

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6v16

DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,
Manufacturers of all kinds of
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Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

13v14qr

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Horace Greeley's Autobiography, and other new and popular works. Send for descriptive circulars.

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JOHN W. QUICK, Manufacturer,

Removed to A. Pritzel's Iron Works, 213 Fremont street, near Howard, San Francisco.

Screen Punching in all its branches, at rates reduced from 25 to 40 per cent less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.

N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

Pacific Chemical Works.
SULPHURIC ETHER.
SPIRITS OF NITRE,
AQUA AMMONIA,
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CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.

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LOUIS FALKENAU, State Assayer.

☞ Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

HINKLE'S
"IMPROVED SPRING-BED BOTTOM."
(Patented July 21st, 1868.

The undersigned, having purchased the Patentee's interest in the States and Territories of the Pacific Coast, is now prepared to supply Private Houses, Hotels and Steamers with this comfortable, economical and durable "IMPROVED SPRING BED BOTTOM."

Persons going to White Pine will greatly promote their comfort by taking one of these Patent Bottoms, which is secured to a folding Bedstead, the cost of which is less than that of the materials at White Pine.

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P. HUDSON, Proprietor.

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6v18qr

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RATES FOR ADVERTISING
VERY LOW.

ASSESSMENT OF MINING CLAIMS.—A mass meeting of the miners of Alpine County was recently held to take action in regard to the assessment of mining claims. Their object was to suggest some mode that would secure uniformity and equality throughout the county, and at the same time satisfy the Assessor that his work had been legally and effectually done. Resolutions were adopted which expressed the opinion that undeveloped mining claims are not legally assessable; but in order to avoid litigation, they recommend that such claims, which are non-producing, and their value unknown, shall be assessed at the rate of $5 for each 200 feet of ground claimed, whether by an incorporated company or individual. They further recommended that mining claims which are developed to such an extent as to be producing, and so having an ascertained legitimate value, should be assessed on the same principle as real estate; and that all personal property belonging to claims or to mining companies should be assessed the same as other personal property in the county. In addition to the resolutions relating to the assessment, the meeting recommended the miners of the different districts in the county to pass an abandonment law to the following effect: That any undeveloped claim on which taxes have not been paid for one or more years shall be regarded as forfeited and abandoned, and liable to relocation; and that the payment of taxes shall be deemed evidence of title.

Commenting on the above, the Nevada *Gazette* says: "The action of the meeting, in our judgment, was wise and judicious. The assessment of undeveloped claims at a nominal rate, is the plan adopted in this county, while paying claims have been assessed as near as their value could be arrived at, taking into account the liability of mining property to depreciate. The recommendation that the payment of taxes should be held as evidence of title, and failure to pay evidence of abandonment, would be a good rule to adopt in all the mining districts. If a man holds a claim with the intention of ever working it, he certainly would not object to pay a yearly tax of $1 or $2, while with the rule in force, men could go to work to develop abandoned ledges, with confidence that they would not be interfered with by old claimants."

OLD FOGY MECHANICS.—"There are some engineers and mechanics that seem profoundly impressed with the belief that no new thing, no new device, can be an improvement, and they look with an unkindly or careless eye upon everything that indicates a variance with their present knowledge or practice. After they arrive at a certain age and experience, improvement, according to their exhausted ideas of the possible, is impossible. The positively perfect theory is reached by men at different ages; if it happens to a mechanic when he is in middle life, or some thirty-five or forty years old, there is no hope for his future usefulness except in a very subordinate situation. We have known two marked instances of the ill results of the belief that no change can be an improvement in the managers of locomotive shops. In one case no change of patterns, no new devices or methods were allowed, all proposed innovations were rejected, and the result was that in some fifteen years, the concern was out of date and failed. In the other case the result was nearly as bad; but before utter failure the manager was made to perceive his incapacity, and resigned, his place being taken by a "theorist" from the draughtsman's office, under whose management the works now take a leading position. There are many railway shops that are cursed by just such conservative mechanics. It does not necessarily follow that these are elderly men, as one of the best and most successful master-mechanics we know is on the wrong side of sixty-five; and no man in his profession is more alive to all improvements than he."—*Railway Times.*

HEATING CARS.—The New Haven *Journal* thus describes a new method of heating passenger cars: "A bonnet is placed on the top of the car at each end, to catch the wind while the car is in motion, and the air rushes down a pipe in a corner inside, close to a stove, which is made with a bot air jacket. On the floor of the car stands a closed box, partly filled with water. The air rushes directly into this water box, where it is thoroughly washed, and passing into the beater, is forced into pipes that run near the floor, the whole length of the car, on each side and under the seats. At proper intervals these pipes are perforated with small holes, through which the heated air then escapes. The arrangement gives satisfaction."

COPPER FROM ALASKA.—The *Oregonian*, of the 27th ult., contains the following paragraph: "We yesterday saw a boulder of metal brought down from Sitka by Captain Langdon, of the steamer Geo. S. Wright. It is heavy and has almost the appearance of genuine gold, though an expert would not mistake it. There was among those who saw it a diversity of opinion as to what it really was, some believing it to be merely copper, while others thought it might be a compound containing gold, silver and copper, or silver and copper alone. Accordingly, the nugget was yesterday taken to Charles F. Kenhn, jeweller, for test. Upon applying the acid test, copper was found to be in large proportion. No silver test had been applied when we visited Mr. Kenhn's place, but he thinks there may be a small per cent. of silver in the metal. It is soft as pure copper, and the nugget may be readily sawed or cut. The specimen was brought to Sitka by the Indians, who say they procured it on what is called Copper Creek, and that it came from a burning mountain in a fused state. It seems to have been once fused and to have been run into a crevice in the rocks. Whether or not it contains any metal more precious than copper, the locality from which it was taken must be immensely rich, if the stories of the Indians be true."

Of course the idea that this "boulder" was thrown out of a "burning mountain, in a fused state," is all moonshine. Volcanoes never throw out metals of any kind at least not in any appreciable quantity. It is more than probable that it may contain a very little silver, as native copper always does; and there is no improbability in the supposition that valuable copper mines may exist at or near the locality which this boulder was found.

THE NEW COLORING PROCESS.—The new method of permanently coloring stone, mentioned in our last, is, it seems, equally applicable to the coloring of wood. The New York *Stockholder* says: "The cheapest woods subjected to the process, take on the same hues and become as susceptible of polish as the most costly woods brought from India and Brazil. We have seen the spruce and hemlock of Maine and New Brunswick, cheap and common woods, treated by this process, assume the glittering surface of polished rosewood, apparently with all the hardness of that wood and with even superior brightness of tint. In the case of wood as of stone, the material is thoroughly permeated with the tint which it is determined to give it, and consequently the treatment is good for all time."

It is easy to see that the applications of this invention are endless. For the inside decoration of buildings and steam vessels, and for cabinet work, it will be invaluable.

NEW MANUFACTURE.—The Lenox (Mass.) Plate Glass Works are experimenting with a new article resembling porcelain, for table-tops and mantels. It is made from cryolite, a mineral brought from Greenland, which name the manufactured article will take. They are also turning glass to the novel use of mold-boards for plows, for the Western prairie lands, where the soil is very destructive to iron.

STEERING BY HYDROSTATICS.—Capt. Englefield, of the Royal Navy, has invented a mode of steering ships by hydrostatic pressure—the pressure of the water in which the vessel floats. The apparatus is, of course, below the water line, and it can be controlled from any part of the vessel. The Captain, sitting in the cabin of the largest iron clad, with a compass beside him, can steer her with his thumb and finger.—*Iron Age.*

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17v17-qv1y E. P. HEALD, San Francisco.

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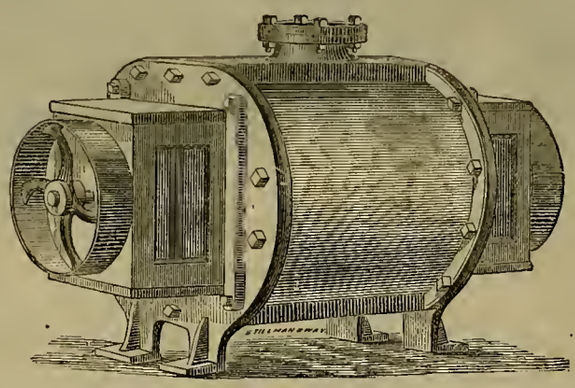
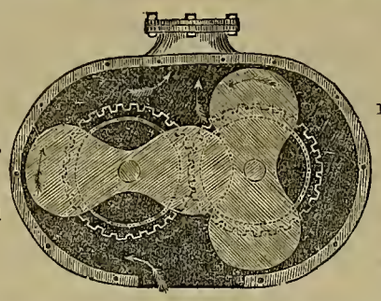
Prices varying from $1 50 to $2 per day for Board and Room.
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE

☞ Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYGANT, Proprietor.

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.
Awarded the First Premium at the Paris Exposition.



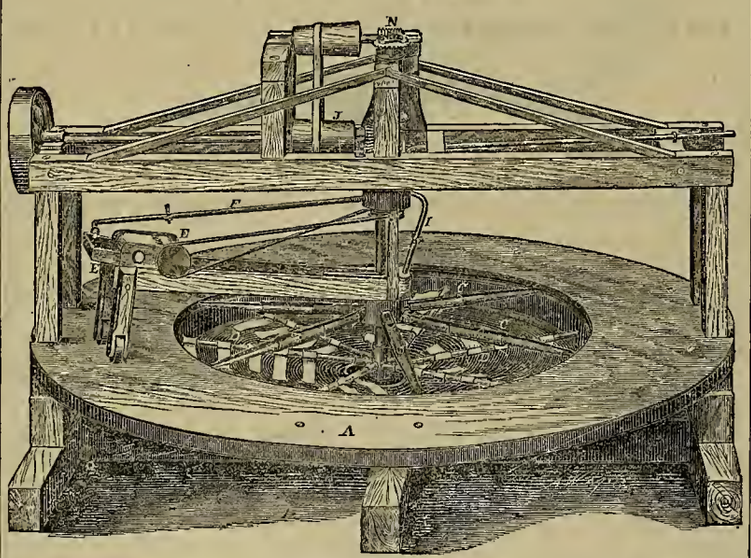
ADAPTED FOR Smelting, Foundry, Mining and Steamships.



REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.
CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.
For circulars and further information, address
KEEP & BARGION,
4v16-3m Globe Iron Works, Stockton, Cal.

PAINE & STEPHENS'
IMPROVED CONCENTRATOR,
For Saving Gold and Silver Sulphurets.



One Machine, costing about $1,300, is sufficient to work the Sands from 25 to 30 Stamps,
Less power being required than for any other Machine. The attention of quartz millmen throughout the State is directed to the subjoined certificates, and if they desire they can visit the Amador Mining Co's mill, near Sutter Creek, the Eureka Co's mill at Grass Valley, or the Banner Co's mill near Nevada, and see for themselves.

CERTIFICATES:

GRASS VALLEY, Jan. 4th, 1869.—This is to certify, that we have used the Paine, Stephens & Harry Concentrators for over twelve months. They have given us entire satisfaction, and are the best we ever used. WILLIAM WATT, Supt. Eureka Mine.

This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.
WM. L. TISDALE, Supt. Star Spangled Banner Mine.

NEVADA CITY, Oct. 26, 1868.

Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE, at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.
13v16eow

Metallurgy.

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That I am prepared to teach all the above branches in less time than in any European School.
I also undertake to assay and work any kind of ore, or mineral substances.
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PROF. HENRY WURTZ,
Formerly Chemical Examiner in the U. S. Patent Office may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞ Written communications preferred.

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All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

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WORCESTERSHIRE SAUCE
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The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for
Lea & Perrins' Sauce,
and see that their names are upon the wrapper, labels, stopper, and bottle.
Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L and P. give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.
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Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CRUSS & CO., San Francisco. 3v18-1y

SULPHURETS;
What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.
By WM. BARSTOW, M. D.
Published by A. Roman & Co., San Francisco.
For sale at this Office.--Price, One Dollar.
With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

White Cloud Mining District, Nevada.

In 1862-3 a party of prospectors, including Robert Truein, discovered some rich ledges in the Humboldt silver range, which they soon abandoned on account of the remoteness from civilization and difficult communication. Now the cars of the C. P. R. R. run only about thirty miles west of these mines, which are some 100 miles northwesterly from White Pine District. Oreana, in Humboldt County, Nevada, is the nearest railroad station.

J. H. Adams, Charles Silent, Col. Bee, and Frederick Smith, and one of the original discoverers, recently left San José on a trip to the locality above named, and according to the San José *Mercury*, made some twenty-two locations, including the White Cloud, Ralston, Hurricane, Republic, Lake View, Mountain View, Editors', Black Ledge, Loyal, Grant & Colfax, United States, and Buckeye. They located a town site and several mill sites, and organized the "White Cloud District," electing H. Bassett, Recorder.

A collection of rich and massive specimens were shown us lately at San José, which we are assured assay remarkably well, carrying gold, silver and copper.

The gentlemen engaged in this undertaking are well-known citizens, and are confident and energetic, and we expect to hear remarkable results from these mines at an early day. The San José *Patriot* alludes to their prospects as follows:

"A cut of four feet horizontal into the White Cloud ledge exposed a solid mass of ore richer than the croppings had indicated it to be. Five tons of ore were taken out of the cut, specimens of which may be seen at Waltenfel's book store in this city. The company are now running a tunnel to intercept the ledge about thirty feet below the croppings.

The ore is a mixture of the blue carbonate of copper, chloride of silver and streaks of rotten gold-bearing clay, very soft and easy to work. The ledges are, to all outward appearances, extensive and well defined, having mineral-stained granite for the wall-rock. The connecting rock is granite, commencing with the rotten or decayed granite at the foot-hills next to the plains, and following in regular succession towards the backbone of the ridge are the new granite, the mineral belt of precious metals, a belt of black rock having the appearance of being greased and burned, a belt of iron ore looking as if the foundries of the whole world had deposited their molten mass of metal in one grand heap; and next to the summit, or on the summit, is the timber land, well wooded with nut pine and scrub cedar. The country also contains plenty of good spring water. The claims located by the gentlemen that started from this city are situated within a circle of about one mile, and as they prospected no further than in the immediate vicinity of their claims, and the mineral belt being to all appearances very extensive, richer discoveries in that district than any yet made may reasonably be expected."

HOTEL BAGGAGE.—The proprietor of the Planters' House, in St. Louis, has been ordered by the courts to pay $2,389, the value of the contents of a trunk left there in 1865, and sold at auction with other unclaimed baggage.

Sheffield Scientific School
Of Yale College, New Haven, Conn.

This department of Yale College, instituted in 1840, and endowed with the National Land Grant in 1866, furnishes advanced instruction in the various branches of Mathematical, Physical, and Natural Science.

The School is under the direction of the President of the College, a Board of thirteen Professors in different specialties, and six assistant instructors.

Regular courses of study, leading to the degree of Bachelor of Philosophy, conferred by Yale College, are arranged as follows: 1—CHEMISTRY AND MINERALOGY. 2—CIVIL ENGINEERING. 3—MECHANICAL ENGINEERING. 4—MINING ENGINEERING AND METALLURGY. 5—AGRICULTURE. 6—NATURAL HISTORY AND GEOLOGY, and 7—SELECT COURSE.

Advanced students are also admitted to optional courses, and if already College graduates, are received as candidates for the degree of Doctor of Philosophy.

Tuition, $125 per year of forty weeks.

The Libraries, Museums, Laboratories and Apparatus, accessible to students, are varied and extensive.

For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

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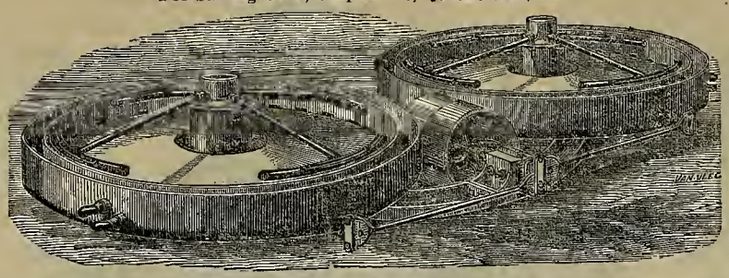
For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well knewn Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868

MR. MORGAN HUNGERFORD—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

In future these Pans will be manufactured by GODDARD & Co., at the Pacific Iron Works, San Francisco, which is a guarantee that they will be built in the most substantial manner.

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Or M. HUNGERFORD, at the Pacific Iron Works.

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"	6	" "	6	"	20	"	21	Poll	4	"	20
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"	8	Flat Eye surface	4	"	16	"	24	"	5½	"	20
"	9	" "	4½	"	16	"	25	"	6	"	22
"	10	" "	6	"	18	"	26	"	6½	"	24
"	11	" "	5½	"	18	"	27	"	7	"	30
"	12	" "	6	"	20	"	28	Coal	2	"	15
"	13	" "	6½	"	22	"	29	"	2½	"	15
"	14	" "	7	"	24	"	30	"	3	"	16
"	15	Drifting	3½	"	18	"	31	"	3½	"	16
"	16	"	4	"	18						

Also PICK EYES ready for the steel, for the Blacksmiths, which will be sold cheap.

I wish to call special attention to my

NEW ADZE EYE PICK,

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TAVERN AND HAND BELLS AND GONGS,
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For Mining purposes, Iron Steam Pipe furnished with Fittings, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."

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EACH SAW IS WARRANTED IN EVERY RESPECT.
Particular attention paid to construction of
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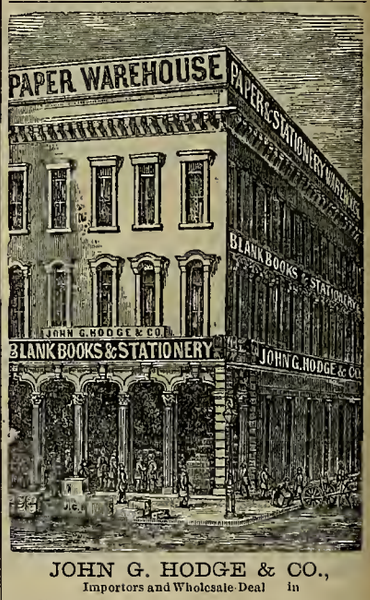
MILLS FURNISHED AT SHORT NOTICE,
At the lowest Market Prices.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Jennings' Improved Mining Sluice.

Whatever presents a reasonable prospect of improvement in mining operations, is worthy of attentive consideration. It is so seldom that we are enabled to give anything new in the direction of sluice building, that we are especially pleased to be able, to-day, to give a brief description of a newly-invented sluice for use either in quartz or placer mining, the invention of Mr. Orlando Jennings, of North San Juan, Nevada County, a well-known and thorough-going practical miner. Mr. J. first applied the device to the separation of gold and sulphurets from the sands issuing from a quartz mill battery; its success there attracted the attention of a neighboring placer miner who solicited and obtained the privilege of trying the principle at his hydraulic diggings, where it is now giving the highest satisfaction.

A proper working of this sluice, whether attached to a quartz mill or operated in placer diggings, requires a previous sizing of the material to be put through, and Mr. Jennings is now engaged in perfecting a convenient apparatus for this work—that for quartz mill purposes will be constructed on the principle of Rittinger's Pointed Boxes, while for placer diggings a modified "grizzly" or series of grate bars will be employed.

The annexed engraving represents a short section of the bottom of the sluice. C C represents the bottom or floor. A series of grooves and riffles will be observed at E E, running from either side to a central channel, slightly depressed in the bottom of the sluice. Such is the simple construction of the device. The principle of its working is as follows: When the ore or sand, with the water, is received into the upper end of the sluice, at A, the action of the grooves and riffles is to deflect the water, mixed with the earthy particles, from the sides to the center, until the same becomes piled up, in a longitudinal ridge, along the center of the sluice. From the top of this ridge, again, there is a tendency of the water to flow off towards the sides. This gives two currents—one towards the center on the bottom, and the other away from the center and towards the sides, on the top. The result is that the particles of the greatest specific gravity tend to the bottom central groove, while the lighter and coarser sand rises towards the surface, is rolled outwards and passes down the sluice in two separate currents, parallel to the central groove, and between it and the sides of the sluice, as shown by the waving current lines.

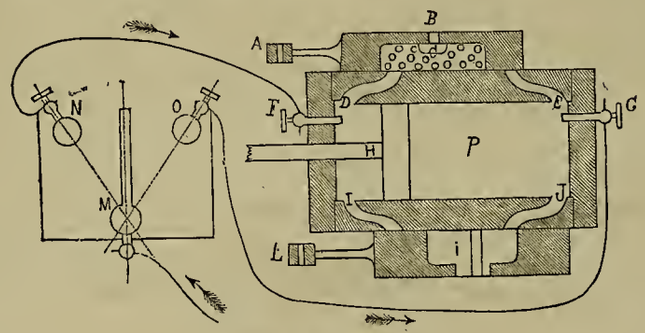
By the establishment of these concentrating and separating currents, the heavier particles are more readily and effectually separated from the lighter, than when the latter is allowed to rest directly upon the former; while at the same time the escape of the waste sands is more readily brought about and with less admixture with the metalliferous particles, than when both are allowed to pass down the sluice by the same current—the one superimposed upon the other. Application for a patent for this invention has been made through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. See advertisement in its appropriate column.

THE FIRES NOT YET EXTINGUISHED.—The latest telegraphic reports from Gold Hill report that the fire in the mines is not yet extinguished, and that the smoke is so dense in the shafts and drifts that but little effective work can be done towards their direct extinguishment. Since the accident on Monday last, by which one of the men engaged in the work of extinguishment lost his life, nothing special has occurred. Workmen are still engaged in forcing water upon the fire, wherever it can be reached; but apparently with very little effect. The injury to the mines will probably be far more serious than has heretofore been apprehended. Aside from the direct loss to stockholders, and the terrible bereavement, by loss of life, much distress is produced by the great number of people who have been thus temporarily thrown out of employment by the stoppage of work at the mines and mills. The monetary public will also feel, to a greater or less extent, the suppression of the usual yield from these mines of some $850,000 worth of bullion per month.

Lenoir's Gas Engine.

To furish an idea of the principle and method of operation of this most convenient invention, the accompanying diagram will sufficiently serve. It is necessary only to premise that one of Lenoir's machines of one half horse-power French, or nearly one horse-power English, may be seen daily at work in the office of the *Courrier de San Francisco*, on Jackson street a few doors above Montgomery.

The diagram represents a single cylinder, and all that there is of the machine except the crank-wheel which transmits the power from the piston rod H, after changing it into rotary motion, to the printing press, or any other machine, in the parlor, cellar, or garret, requiring power. Common lighting gas is the agent, in place of steam; it is mixed with atmospheric air, in a very simple manner, automatically, in the proportion of nine of air to one of gas, which makes an explosive carbureted hydrogen compound similar to the explosive gas in coal mines, or marsh gas, —the same thing. Common coal gas, or the olefiant gas of the laboratory, is CH, the explosive mine gas CH^2. Mixture of air with the former 9:1, imparts the extra equivalent of hydrogen to make it explosive.



LENOIR'S GAS ENGINE.

The gas-pipe connects with the machine at B, where, by means of an inverted cup it is measured off, at every stroke of the rod, with the proper quantity of air, and distributed evenly through the holes C, for entrance into the cylinder, alternately through the openings D and E regulated by the slide valve rod A, which shuts the one while it opens the other. On the opposite side there are similar openings I and J, and a similar slide valve arrangement L, to let out the exploded or burnt gases, ($C O_2$ and HO) carbonic acid and vapor, through I.

The moment that the space (P) in the cylinder is filled with gas, the automatic connections are such that an electric spark touches it off by the wire G, driving the piston H from a little distance on the P side of the middle, towards the other end of the cylinder, by a pressure of 5 to 6 atmospheres. But at the instant that the piston reaches a certain point a little beyond the middle, on the other side, an explosion takes place on the opposite side of the piston by a spark from F, which drives it back again. This repeats itself perpetually; the only preliminary, in the place of "steaming up" or engineering necessary being the turning on of gas, and making of the wire connection. The device by which electricity is made to touch off opposite volumes of gas alternately, is shown at M, —a piece of iron connecting with a pole of the battery, which swings by automatic connection, once to N, and then to O.

A one horse-power engine consumes about 40 cubic feet of gas per hour; which, at $6 per 1,000 feet, would amount to 24 cents an hour. The *Courrier* engine, a half horse-power, says Mr. Derbec, costs him not over 15 cents an hour. The cost for nitric acid in the battery is scarcely worth mentioning. The only trouble that has been experienced in the use of the engine thus far, has arisen from the impurity of our city gas, necessitating cleaning of the passages D and E about once a month.

These engines cost in Paris: ¼ horse-power, 800 fr.; 1 horse-power, 1,300 fr.; 2 horse-power, 2,000 fr.; 3 horse-power, 2,500 fr.

GOLD AND SILVER CHLORINATION IN MEXICO.—A valuable article by Ottocar Hoffman, on the second page, serves as an example of the definite kind of writing which is necessary on metallurgical subjects to enable others to profit by the description of a process—our real road to progress in that very important specialty—and at the same time calls for a word or two from us, of discrimination.

Chlorides of the base metals and of gold are soluble in water, while chloride of silver is not, being soluble only in salt water, or in water containing hyposulphate of soda in solution. In the Plattner gold chlorination, silver, accordingly, is lost.

If the base metal sulphurets are roasted to oxides, they cannot afterwards be chlorinated with chlorine gas; therefore if copper is to be gained, as, for example, at La Dura, salt must be added during the roasting; which chlorinates the several metals at different temperatures, but silver last, the base metal chlorides being ordinarily re-decomposed by the time that the silver becomes a chloride. In order to get both silver and gold into a state of chloride without decomposing CuCl, etc., Plattner's gas generation process is taken advantage of; and gold, copper, etc.—all but silver chloride—are leached out with water, and precipitated separately. Then the hyposulphite of soda, or the salt water leaching process, may follow, to obtain the silver.

Kustel's silver chlorination differs from the Patera process simply in the method of chloriuating silver; avoiding, by the use of chlorine gas, the necessity for a very costly and complicated double roasting, with salt, steam, and sulphate of iron.

ALL THE GOLD in the world might be put into a cube of 26 feet.

Communications.

Written for the Mining and Scientific Press.

Chlorination of Silver Ores at La Dura, Sonora, Mexico.

BY OTTOCAR HOFMANN.

The favorable result obtained by the chlorination process of Kustel & Hofman on a small quantity of ore in San Francisco, induced Mr. E. B. Smith, the Superintendent of La Dura, to engage me for the purpose of introducing that process at the La Dura mines.

These mines are situated on the Yaqui river, about 140 miles east of Guaymas. On our arrival, in consequence of a freshet, we found the Yaqui sixty feet above the normal stand, the Hacienda with all appertaining buildings swept away, leaving only the foundation and the battery. The furnaces, Varney's pans, boiler, etc., were buried in the river. The energy of Mr. Smith, however, replaced the old works in a comparatively short time, only substituting chlorination for amalgamation.

The complete property of the Pittsburg-Sonora Mining Co. consists of three veins, La Dura, Kamona and Gaxiola. From each of them ore is treated, but principally from the Kamona, which is the more favorably situated, and also better opened. Ore is abundant, and consists of light and dark fahl ore, argentiferous zinc-blende, galena and some iron pyrites. The amount of silver varies from $60 to $130 per ton. Of zinc-blende there is about eight or nine, and of copper three to four per cent. in the ore. Galena and the other base metals formerly caused a great loss of silver in amalgamating, destroying at the same time the pans, and quicksilver to a considerable degree.

The present manipulation at La Dura is executed in the following way:

1. *The Roasting.*—The ore, crushed dry through a sieve of 35 meshes, in charges of 800 pounds, is introduced in a furnace thirty feet long, in three compartments ten feet each by eight feet width. The bottom of each compartment is two and a half inches above the preceding. The charging is effected through the roof of the last hearth, where the ore is prepared by a moderate heat. After three hours the charge is removed to the second hearth, and a new one introduced in the former. On the second hearth the ore comes soon into a dark red-hot condition, requiring more stirring than in the preparatory compartment. The ore gets rid of the greater part of its sulphur, and it is necessary to change sometimes the ore from the end of the hearth to the front, nearer the fire-place. After a lapse of another three hours, the ore is moved again, now to the first hearth, nearest to the fire-place. First, an oxidizing roasting is applied to the ore for two hours, after which the firing is stopped, three to four per cent. of salt is introduced, and the ore chloridized at a low temperature for one hour. A low heat is here required on account of the volatility of the chlorides of copper and zinc, by which more silver would be carried off. Ten minutes before the discharge, half of each compartment is cleared by shoveling the ore towards the fire-place, and moved over on the next hearth as soon as the discharge of the roasted ore begins in the first compartment, so that when the discharge of 800 pounds is finished, each hearth appears already charged.

These furnaces have the advantage of not only saving fuel, but requiring a less skillful roaster to do good work. A chloridizing roasting is not necessary, unless for the purpose of gaining the copper.

The are two roasting furnaces at La Dura, capable of roasting five tons of ore.

2.—*Moistening of Ore—The Tanks.*—The roasted ore, after being cooled down somewhat, is first moistened, only so much as to prevent dusting in the next operation of throwing it through an inclined sieve. The lumps separated hereby are pulverized and returned to the roasting furnaces. What fell through the sieve is moistened by further addition of water to such a degree as to allow it to be pressed into a ball without adhering to the hand. It is mixed by two workmen, by means of shovels, and then introduced into the chlorinating tanks. Carefully charged, the ore lies loose enough to permit the gas to have an easy passage.

The tanks are 9 feet by 2½ feet deep, made of 1½ inch plants, lined with a hot mixture of pitch and tar inside. The bottom is somewhat inclined from both of the long sides towards the middle, forming a flat channel length ways. Above this there is a false bottom formed of wooden staves, partable in segments, and covered with a piece of coarse canvas, for a filter. These tanks are placed parallel with the long sides of the building, having as front one of the short sides, which stands 1½ inches lower than the opposite end. Below the false bottom in front, each tank has a leaden cock, which, by means of an india rubber hose may be connected with the chlorine gas generator when the ore is ready to be chloridized. The same cock will also serve for dischargiug the leach. On the opposite side, also below the false bottom, two pipes are inserted, one provided with a lead cock, communicating with another chlorine gas-pipe, the other leading to the water-reservoir.

The upper rim of the tank is lined with india rubber, on which the cover is fastened airtight by means of screws. This mode of shutting up the chlorinating vat air-tight is much preferable to the old way of pasting the cover with dough or clay, as is done in gold chlorination. It is cheaper, cleaner, quicker, and more perfect.

3.—*The Chlorination.*—The silver contained in the ore is found after roasting to consist of chloride, sulphate, and sulphide of silver. Exposed to the action of chlorine gas for several hours, all is converted into chloride of silver.

The chlorine is generated in the usual way, by peroxide of manganese, sulphuric acid and salt. It is conveyed through a lead pipe into the washing apparatus, and from thence through two pipes along both sides of the chlorinating tanks. Salt and manganese are cheap in Sonora; the sulphuric acid, however, is expensive. Under such circumstances the object is less the utilizing of every particle of salt, than to produce the largest quantity of gas in the shortest time. For this reason I use more manganese and salt than are required by the chemical proportion; viz: 32 pounds of sulphuric acid, 16 pounds of manganese, 16 salt, and 16 pounds of water, which proportions are sufficient to chloridize 2½ tons of ore. The chlorine enters the tanks from two sides. After 2½ or 3 hours, the gas will be observed to come out through a pips fixed above the ore, showing that the chlorination is fiuished. All pipes are shut off now, and the gas is allowed to act on the ore for five or six hours. After this time the upper pipe is brought in connection with the lead cock below the false bottom of the next prepared tank, by means of a rubber hose, and the surplus of chlorine forced over by the water entering below the false bottom from the reservoir. Using over the surplus of chlorine, the expense of chlorination is considerably reduced, and the workmen are not at all molested by the gas. The next tank is now partly filled with chlorine and the lacking part must be replaced by fresh generation. Generally 20 pounds of acid are here sufficient in place of the above 32, taking the ingredients in the proportion before stated.

4.—*Leaching out of the Base Metals with Water.*—After all the chlorine has been displaced by the entering of water, the latter is now shut off, the tank uncovered, the cock in front opened and water conveyed on the top of the ore, which must be kept submerged several inches; regulating the inflow of the water so as to be equal to the outflow. The leach is led into a tank of masonry, coated inside with pitch, (12 feet by 6 and 2 feet deep,) so long as it appears colored green from the chloride of copper. The copper is precipitated in metallic condition by means of old iron. The leaching continues till a solution of sulphide of sodium shows no precipitate of base metals. In this case the leaching with water is finished and the next process follows.

5.—*Leaching out Chloride of Silver with Hyposulphite of Soda.*—This salt, possessing the power of forming a soluble compound with the chloride of silver, must be used in a diluted condition, dissolved in water. The leach, containing silver, is conducted into two tanks, each 5 feet by 3, and 4½ feet deep, coated with pitch and tar. The silver is now precipitated by a solution of sulphide of sodium as a brownish black substance. A vigorous stirring accelerates the precipitation. A surplus of of the precipitant is injurious. The liquor must appear clear, and be neutral, that is, an addition of some more sulphide of sodium should not darken the liquid, neither should this occur by adding an argentiferous solution. The clear liquid including the sulphide of sodium used, is now again in the form of hyposulphite of soda, and ready to be used over.

The lixiviation is stopped when, in the clear liquor, taken in a glass tube with addition of some sulphide of sodium, no precipitate is obtained.

6.—*Treatment of the precipitated Sulphide of Silver.*—A few minutes after stirring the liquor appears clear above the precipitated sulphide of silver, and is drawn off by means of a syphon into a reservoir, for the purpose of using it again as a solvent. The sulphide of silver is conveyed into canvas bags, filtered, washed with warm water, pressed, dried and retorted in earthen pots connected with like vessels, kept cool in order to concentrate the silver, and to regain the sulphur, which serves for the preparation of fresh sulphide of sodium.

The retorted silver is melted in blacklead crucibles with the addition of some iron. In this operation some iron matte is obtained which contains from 4 to 5 per cent. of silver and is thrown into the battery with the ore.

7.—*General statement of results.*—The extraction of silver, in this manner, is very close, tailings assaying from 4 to 5 dollars per ton. The silver is 900 fine.

Compared with amalgamation this process offers so many advantages, locally, that its general adoption in Sonora is certain. There is no difficulty in extracting the silver within 90 per cent. of the fire assay. The working is easy, no power being required except for stamping. The process is cheap, and the capital required for the erection of such works comparatively small, so that companies with small means are enabled to beneficiate their ores, having besides the advantage of gaining the copper and gold separately, if present in the ore.

The silver ore from La Dura is known as the most refractory in Sonora. Its successful treatment induced Mr. M. Alsna, one of the most prominent and industrious mining operators of Sonora, to call upon me to introduce this chlorination process in his Hacienda at Trinidad, which is being done in the manner and with results similar to those above described.

THE RECENT EXPERIMENTS WITH THE TELEGRAPH.—In the telegraphing recently performed for the purpose of determining the mean time between Boston and San Francisco, the wires were so connected with a chronometer at Harvard University in Cambridge, that the circuit was broken and reclosed at every tick. Thus the ticks of the Cambridge time-piece may be almost said to have been heard in San Francisco. A repeater was added, and signals were sent from that city to San Francisco and back to Boston,—some six thousand miles,—in less than one minute.

INSULATION OF THE ATLANTIC CABLE.—It is found that there is a steady improvement in the cable, as regards perfect insulation,—from month to month. The first cable, laid four years since, "leaks" less than the other, from the fact that the cable can be manipulated with a much weaker battery than that originally employed, and that such diminution has now reached a surprisingly low point, it has been supposed, inexplicable as it may seem, that the electricity in the cable is gradually becoming static.

TO DISTINGUISH EDIBLE FROM POISONOUS MUSHROOMS.—Sprinkle a little salt on the spongy part or gills of the mushroom; if it turns yellow, it is poisonous, but if black, it is wholesome.

LARGE PRODUCT OF A MISSOURI IRON FURNACE.—A hot-blast charcoal furnace, 40 feet high, 9½ feet bosh, made in January 784 tons of pig-iron, of 2,268 pounds to the ton.

NATIONAL DEBTS.—The national debt of France is $58.65 to each inhabitant; that of the United States is $63, while the debt of Great Britain reaches the high figure of $130.70 to each inhabitant.

[Written for the Mining and Scientific Press.]

"Why Don't Boys Learn Trades?"

A mechanic of thirty-five years will endeavor to answer the above question, recently asked by the Philadelphia *Ledger*.

Because the education boys receive nowadays enables them to perceive where the tradesmen stand in society, and their parents also perceive and know in what grade any particular calling will place them. When the avenues to distinction are open to all, then all will take venture; consequently a boy prefers to sweep out a lawyer's office, with a hope-venture of some day becoming a lawyer; and even if he has not so high aspirations, he knows that his acquaintance, both male and female, regard his position there as higher than to be an apprentice to a trade.

Though the minister or the doctor do not take boys, yet there have been cases where their places have been filled and trades left by men who felt the pressure of their position and stepped up into them. A boy will tramp with a civil engineer's chain, flag staff, or pole, over the most ragged hillsides, for days, without murmur, because his employer, as an engineer, stands in society with other professors, and his pay corresponds to that station. Hope gives the boy courage to withstand hardships, which, as an apprentice to a trade, would break him down, spirit and body.

He sees, and his parents and guardians see, that the high places in the courts, in the pulpit, in the legislature, or executive branches of government, are very seldom filled by mechanics; and the parents know that the average of political judgment would be quite as likely to be in favor of the mechanic, as otherwise. The same may be said of the errand boy, "counter-jumper," cash boy or even porters in mercantile establishments. The social position, from the first and the material chances for the future, are infinitely better than from a trade; though the mere fact of a *living* be against the merchant boy, as a thousand to one. Very few start in life for a *living*. All start for fame and fortune, or rather it should be put now, for fortune, and fame comes with that. The fault is not with the boys, nor with their parents, as individuals; but with the state into which society has crystallized.

There is no other standard of respectability but *wealth;* consequently that is the aim of all. It comes less frequent to the mechanic, than to any other calling except the farmer. Though the farmer and mechanic are the founders and producers of all wealth; yet in the present state of society, they receive but the very smallest share of the value of their own productions.

Though money is gathered rapidly and easily in the ordinary exchange of products, it is not *made;* and when we say the merchant has made so much, in such a time, we do not express the matter in a proper manner. He has not produced a dollar. The *value* of the farmer's or mechanic's product has enabled him to place it where it was needed, and he has charged three times as much for that service as the original producer received, he consequently wears fine clothes, lives in more splendid houses, feasts on finer viands, and takes a higher place in the social scale. Boys see all this, and, consequently, won't learn trades. How far and how long the world can go on swapping knives, is a question for POLITICAL ECONOMISTS.

A RIVER UNDER THE ROCKY MOUNTAINS. Catlin, the prairie traveler, thinks that a great river, "larger than the Mississippi," flows under the Rocky Mountains. Mr. Catlin is about to submit the evidence which he has collected in favor of this startling hypothesis to the world.

IMMIGRATION INCREASE.—There was an excess of passenger arrivals at this port from Panama, for the first quarter of the present year, of 5,200 over the same time for last year.

A CURIOUS SWORD.—A sword made from a piece of meteoric iron, which fell near Santa Fe de Bogota, was once presented to Simon Bolivar.

Mechanical.

Runaway Engines.

The running away of a locomotive is, thanks to the telegraph, of no great consequence, for the alarm may be flashed past the truant, and the track kept clear until another engine can effect the capture of the runaway. A marine engine can easily be brought to reason if it make an attempt to run. But the running away of a stationary engine is a serious matter. *The Engineer* gives two instances of such an occurrence, both caused by the giving way of a governor wheel. One of these we copy in brief:

"The pace of the engine was steady and majestic, rendered so by the control of an excellent governor, which kept the throttle valve more than three parts shut. This governor was driven, by a pair of light cog wheels, from the main shaft, and it unfortunately happened on the day in question one of those wheels broke, the governor ceased rotating, the balls dropped, the throttle valve flew open, and the engines ran away. The engine driver rushed to the door of the engine-house, but a glance showed him that to enter would be to risk his life. He then ran to the stop valve on the main steam pipe in the boiler-house, but before he could close it the engines were a complete wreck; the fly-wheel was split, the entablatures and columns torn up, and the ends knocked out of the cylinders. The ruin was complete, and an entirely new pair of engines had to be put down in their place. The breakage of the governor wheel thus entailed an outlay of some thousands of pounds, besides throwing several hundred hands out of work."

How is such an accident to be prevented? "Simply,"—says the journal aforesaid,—"by so constructing the governor that when the balls are close down to the central spindle the throttle valve shall be closed. There is no difficulty whatever in effecting this. The throttle valve may be a double-beat equilibrium valve, closing when raised too high and closing when dropped too low; or the ordinary throttle valve may be so adjusted that when free from the governor it will close of itself. Then the gear must be so contrived that when the governor balls fall down to the spindle, they shall break the connection between themselves and the throttle valve. In either case it will be necessary to open the throttle by hand to start the engine, but this is a matter of small moment. When very heavy balls are used, it will be well to fix some brake arrangement to the governor in order that it may be arrested very quickly, otherwise it might continue to revolve under the influence of its own momentum, more and more slowly, opening the throttle wider and wider each moment, so that by the time the balls had fallen so far in that the throttle was allowed to close, mischief might have been done; but in very few cases indeed will this precaution be required."

ANOTHER "STEAM MAN."—The Newark *Journal* thus describes a new steam man which was first publicly exhibited, February 22d: "The "man" portion resembles in outline a human being, weighs about five hundred pounds, and is connected with a two-seated "rockaway," attached behind it by iron bands.

"Each breast of the figure contains an oscillating engine. A steam chest is placed between these, and the throttle valves are just below. The legs are composed of intricate machinery, and present an appearance, when walking, similar to that of an ordinary mortal. When in the act of stepping the feet are raised about five inches from the ground. The steam passes into the chest by means of a rubber hose, and when exhausted is carried to the smoke-stack at the rear of the carriage, through another tube. A four-horse power is placed under and at the rear of the carriage, and is provided with water by a steam pump which communicates with a water-tank under the front seat of the vehicle. The movements of the machine are controlled and regulated by two handles that rest on the dashboard. The whole apparatus, including carriage, weighs about a ton, and cost $3,000.

BOILER BUTT-JOINTS AND RIVETS.—A properly proportioned single-riveted butt-joint, with any given thickness of plates, and with covering strips on each side, possesses nearly the same strength as a properly proportioned double-riveted lap-joint or butt-joint with a covering strip on one side only. In a properly proportioned double-riveted joint the spaces between the rivet holes (measured along each line of rivets, not zigzag) should be twice as great as that required in single-riveted joints having rivets of the same diameter; and the same rule applies to single-riveted butt-joints with double-covering strips.

The proportion which the strength of a riveted joint bears to the solid plate, increases with an increase in the diameter of the rivets used. The reason for this is self-evident. The area of rivet increases as the square of the diameter, whereas the length of plate (measured along the line of the joint) removed to make room for the rivet varies as the diameter of the latter only. *The Engineer.*

WATER FOR STEEL HARDENING.—The following is an extract from a new manual on the "management of steel" by George Ede, a practical mechanic employed at Woolwich Arsenal:

"The more the water is used for hardening steel the softer it becomes, and has a tendency to act less suddenly upon the steel; consequently the less frequently the water used for the purpose is changed, the better—that is, providing the water has not by continual use become greasy. The water is not made better for giving the steel a greater degree of hardness by being long in use, but it is made better for the purpose because it is less likely to crack the steel than fresh water; therefore, as the water wastes, fresh water should be added to it. Brinish liquids, such as aquafortis, urine, or water changed with common salt, etc., produce rather more hardness than plain water; but, for most articles, plain water with the chill off gives sufficient hardness to the steel. Water at about sixty degrees, measured by the thermometer, is the most suitable temperature to prevent steel cracking in hardening. Water holding soap in solution prevents the steel from hardening.

ROLLING WIDE PLATES OF IRON.—Formerly very few armor plates were made more than five feet wide, and none, we believe, have been made exceeding six feet, in consequence of the practical difficulty of heating a mass of iron so wide as eight feet in any one furnace without burning the edges in obtaining a welding heat in the middle. This difficulty has now been overcome by a plan which consists of rolling a pile of iron lengthways, until the width required is attained, and then while hot turning it round and rolling it crossways. The first plate made by this plan was rolled on Friday. The pile was 6 feet wide, 7 feet long, and about 16 inches thick, and was first rolled to 8 feet 6 inches long, and then turned half round and rolled into a plate 8 feet 6 inches wide, 16 feet long and 5 inches thick. This is certainly the widest plate of iron of anything like this thickness that has ever been rolled."—*Sheffield Independent.*

ARE AMERICAN WATCHES ABSOLUTELY PERFECT?—The very highest priced European watches have *sometimes* a slight superiority over those of American manufacture in this single respect, viz: the greater care bestowed upon the adjustment of the escapement to pure isochronism. This correction alone is sufficient to run up the cost of a watch indefinitely. It requires the selection of a hair-spring that will give exactly equal times of vibration, whatever may be the extent of vibratory arc; that is, the tension of the spring must increase uniformly with the arc of vibration from the point of repose. The detection of such a spring, in any given case, is almost a matter of pure chance, and can only be effected by patient and repeated trials. A timepiece thus adjusted is also a most delicate instrument, and should be handled with the most profound respect for its refined virtues, lest at any time they should suddenly depart. Any binding or straining of the spring, while in the hand of a bungler, would greatly jeopardize its safety. But any good spring will very nearly fulfill this condition.—*S. W. Robinson, C. E.*

THE MONCRIEFF INVENTION.—This method of mounting heavy guns, which has been already described in our columns, has been accepted by the English government. Capt. Moncrieff receives the sum of seventy-five thousand dollars in cash, and a salary of five thousand dollars per annum for the two past years, and for as much longer as may be necessary to complete the application of his system to the national defences.

Scientific Miscellany.

THE COLORS OF AUTUMNAL FOLIAGE.—Joseph Wharton communicates the results of some experiments upon the temporary restoration of the green color of leaves,—changed by frost,—to Silliman's *Journal*. He reasoned that if chlorophyl, the green coloring matter of leaves, should be, like many other greens, a compound color, it must have for one of its elements a vegetable blue, capable of being reddened by acids. If the juices of the leaves, kept in a neutral condition by the vital force, or by alkaline matter brought in the sap from the earth, should, when circulation ceases, become acidified by the atmospheric oxygen, those juices would then be capable of reddening the vegetable blue of the chlorophyl. If, however, that vegetable blue should be thus reddened, it ought to become blue again, when exposed to an alkali; or, in other words, if green leaves should be reddened in the autumn in the manner here suggested, by the unresisted action of the oxidizing atmosphere, they ought to return from red to green, if immersed in an alkaline atmosphere.

He therefore arranged a wire staging, to stand under a glass receiver, which dipped into a dish of water, and under which was also placed a capsule containing ammonia. Upon this he placed in succession a variety of autumnal red leaves, and found that in most cases the green color was restored. Mr. W. adds; "Frémy separated chlorophyl into two distinct substances, one blue, the other yellow. Frost plays no other part in causing the autumnal tints, than to arrest the circulation. When a sharp frost occurs early in the Fall, while the pulp of the leaves is still full and plump, the red colors come out brilliantly, because there is plenty of the blue substance to be acted upon by the juices, then also abundant."

CREATION BY LAW OR BY MIRACLE.—"To meet the question of 'Whence the first organic matter'? the Nomogenist, who holds that primary life is due to the operation of existing law, is reduced to enumerate the existing elements into which the simplest living jelly (*Protogenes* of Hæckel) or sarcode (*Amœba*) is resolvable, and to contrast the probability of such elements combining, under unknown conditions, as the first step in the resolution of other forces into vital force, with the probability of the interposition of a miraculous power associating those elements into living germs, or forms with powers of propagating their kind to all time.

It seems to me more consistent with the present phase of dynamical science and the observed gradations of living things, to suppose that sarcode or the 'protogenal' jelly-speck should be formable through concurrence of conditions favoring such combination of their elements and involving a change of force productive of their contractions and extensions, molecular attractions and repulsions,—than that all existing sarcodes or '*protogenes*' are the result of genetic descent from a germ or cell due to a primary act of miraculous interposition.

Some, accepting the latter alternative, teach that, while generations of the first-created sarcode have descended to us unchanged from the period of the Laurentian limestone, other sarcodal offspring have developed and improved, or have been selected, into all higher forms of living beings. I prefer, however, while indulging in such speculations, to consider the various daily nomogencously developed forms of protozoal or protistal jellies, sarcodes and single-called organisms, to have been as many roots from which the higher grades have ramified,—rather than that the origin of the whole organic creation is to be referred, as the Egyptian priests did that of the universe, to a single egg."—*Prof. Owen.*

CAUSE OF BLUE IN HYDROGEN FLAME.—When we break up a colorless flame of hydrogen by the introduction of a solid body the flame suddenly becomes blue. M. Sallet, a pupil of M. Wurtz, now shows that this coloration is due to the vapor of sulphur. This sulphur is due to the reduction of sulphates existing in suspension in the atmosphere, — especially sulphate of soda.

THE SUN'S CONSTITUTION.—In the course of some remarks at the Cincinnati Literary Club, Jan. 2d, Prof. Abbe said: "We have thus the sun surrounded by an immense thin, transparent gas—the zodiacal light, within which is a denser atmosphere—the corona, within which is a luminous atmosphere—the photosphere, within which is the liquid molten lava-surface of the sun, and this doubtless incloses a solid nucleus."

INTENSE COLD PRODUCED BY SALINE SOLUTIONS.—The *Scientific Review* says: Dr. Phipson has recently discovered that sulphocyanate of ammonium will produce while dissolving in water, an extraordinary degree of cold; more intense than that resulting from the similar solution of any other salt. In one experiment, 35 grammes, dissolved rapidly in 35 cubic centimeters of water at 23 Cent., caused a descent of the thermometer to 10° Cent. The moisture of the atmosphere was instantly condensed on the outside of the glass in thin plates of ice.

THE "COMING" LIGHT.—From an article in the Boston *Journal of Chemistry*, upon some of the new devices for producing light, we clip the following: "A score of indefatigable, laborious students, in various parts of the world, are hard at work upon the important scientific problem of the production of a cheap and practicable light by the use of the electrical forces, and it indeed furnishes a promising field for labor and research. Moses E. Farmer, of this city, one of the most intelligent and indefatigable experimenters in the country, has devoted several years to this special department of study, and the results are exceedingly interesting and important. He is not yet ready to report progress, but this much we venture to say; a very confident expectation may be indulged, that before many months pass away, a cheap, practicable electric light will be ready to dispute with gas and kerosene a place in our workshops and dwellings."

PAPER FROM OKRA.—The Mobile *Register* describes some experiments recently made near that city, by which the following points were considered as established: That the entire okra plant, from root to pod, is available for paper-making; that it may be prepared in half the time required for rags; that it can be bleached as cheaply as rags; that the pulp works as easily as any other fiber,—and better than straw or wood; and that the paper is very strong, tough, and elastic.

RECENT EXPLORATIONS IN THE GIBRALTAR CAVES.—Capt. Frederick Brome recently explored two ancient sea-caves on the eastern face of the rock of Gibraltar,—called Martin's and St. Michael's caves. They are now more than seven hundred feet above the level of the Mediterranean. Human remains were discovered in both. An abundance of flint chips and knives, stone axes, bone ornaments and pottery, were found. Capt. B. is still engaged in explorations.

THE CHICAGO TELESCOPE.—Prof. Barnard says that this great equatorial telescope has, in comparison with the Harvard equatorial, a light as three to two. The clear illumineting aperture has a diameter of eighteen and a half inches, while that of Harvard measured fifteen. The whole diameter of the Chicago objective, mounting included, is twenty inches. The defining power of this glass is unrivalled, as has been satisfactorily proved by the discovery it enabled its constructor, Mr. Clark, to make of the companion of Sirius, a star which was confidently believed to exist, but which had eluded the refractors of Cambridge and Pultova (of exactly the same capacity), and the reflectors of Mr. Lessell and Lord Rosse.

CERIUM.—This metal has a color between that of iron and lead, and a specific gravity of about 5.5. It has been prepared by Woehler in this way: A solution of the oxide in hydrochloric acid is mixed with equal parts of chloride of potassium and chloride of ammonium and evaporated to dryness, fused, and poured out to partially cool, and then coarsely pulverized and mixed while still warm with pieces of sodium, and the whole projected into a clay crucible previously heated to redness. In this manner the cerium is reduced, and appears in the slag in the form of two pellets, which can be collected and fused into one mass.

NEW LIGHT.—Mr. J. Hogg, of Edinburgh, passes a mixture of coal gas and air through a tissue of iridio-platinum wires at a given pressure. The metal is heated to a white heat, the flame disappears, and an intense white light results, which may be used for photographic purposes as well as the magnesium light. Neither a gale of wind or a fall of rain, will extinguish it.

New Inventions.

PIERCE'S NEW DITCHING MACHINE.—A. E. Pierce, of Gilroy, recently invented a novel and ingenious ditching machine. Through the liberality of Mr. W. C. Bennett,—a public spirited and thrifty farmer, who resides close to Gilroy,—a working machine has been constructed at considerable expense, which, with some necessary modification, promises success. The machine consists of a revolving wheel some 12 feet in diameter, set at an incline, having self operating buckets arranged all around its outer edge. This wheel with suitable gearing is placed in a strong frame, to which is attached the draft and a large plow. The lower periphery of the wheel reaches down to a level with the mold-board of the plow while the upper edge is above the height of an ordinary wagon body. As the machine advances the plow throws up the earth and deposits it in the buckets, while the tractory wheel turns the inclined wheel, carrying the loaded buckets upon its inclined circle to the required hight for dumping into a cart; or the desired distance for dropping it again upon the ground. This invention attracts much interest in the growing and thriving town in which it was invented, and when sufficiently tried and proved efficient, our readers may expect an illustrated description of it in the PRESS.

DITCHING BY MACHINERY.—Mr. W. Robertson, another of our ingenious mechanics of the practical sort, has attempted to solve the important problem,—in itself undoubtedly practicable,—of ditching economically by steam power; and on Wednesday afternoon exhibited, to a number of gentlemen, a quarter working size model of his invention in operation at the corner of Howard and Eighth streets. This machine bores out the earth with a spiral drum revolved by a steam engine resting on wheels which run on planks laid on each side of where the ditch is to be. In stony or rocky ground the danger of breakage would be less than in any other machine of the kind that we have seen. Mr. Robertson claims that the machine can be worked by a steam engine of seven horse power, and that it will excavate a drain at the rate of a cubic yard a minute. By means of a universal joint or crank in the connecting rod, between the spiral drum and engine, the drum can be lowered so as to make the drain a depth of eight feet if required. The cost is from $3,000 to $5,000.

The Ohio ditcher, described in the MINING AND SCIENTIFIC PRESS three months ago, now at work on the Western Pacific Railroad, and the "Pioneer Ditcher" of Washington the Third, are predecessors in the same field.

FOOT MEASURE.—A shoe dealer of Cleveland, Ohio, has invented a novel apparatus for measuring a lady's foot. With this machine a correct measurement is taken of every part that the shoe covers, so that the whole shoe can be made the exact size and shape desired.

INVENTION WANTED.—There is a good opportunity for some given to make fortune and fame, by inventing some way to extract the sediment from champagne, which must be taken away from the bottles before they are finally corked and wired for sale. The loss from breakage of bottles and waste of wine, during the process of "ripening," as it is called, comprises a large portion of the cost of champagne. It certainly must be within the limits of possibility to devise a safety-bottle, acting, perhaps, with a valve, which will admit of a harmless "blowing off," when the pressure of the gas exceeds the bounds of safety.

ARTIFICIAL WOOD.—Some curious inventions in artificial wood have recently been made in Paris, the principal being that of combining the saw dust or wood flour with glue or size, and casting it in molds. Very perfect imitations of carved wood are made in this manner, and they are said to be fire-proof.

New Patents Issued to Pacific Coast Inventors.

FOR THE WEEK ENDING APRIL 6th.

WRENCH AND PINCERS.—Edwin Froggatt, Central City, Col.—88,621.

I claim, 1. The combination-tool, consisting of the wrench, hammer, and pincers, with or without the screw-driver, all operating and arranged substantially as specified.

2. Connecting the movable jaw B of a wrench, by means of a bar or tube *b*, with a parallel arm *c*, the jaw and arm being bifurcated, so as to straddle the slotted shank A, through which screws *d* are fitted into the parts B *c*, substantially as herein shown and described, for the purpose specified.

MACHINE FOR GILDING.—James Lick, San Francisco, Cal.—88,646.

I claim 1. The three pivoted holder-arms B, two stationary and one adjustable, provided with catches G, pivoted levers H, and set-screws I, the connecting-rod E, and pivoting-rod C, in combination with each other, and with the rack L, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the long adjusting-screw J with the pivoted holder-arms B, substantially as herein shown and described, and for the purpose set forth.

3. The book-holder block K and spring-catches M, in combination with the grooved rack L and plate-holder B C E, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the arms P and springs Q with the grooved rack L, book-block K, and plate-holder B C E, substantially as herein shown and described, and for the purpose set forth.

5. The combination of the pivoted board R, springs V, catches S, and spring-catch bar T U, with the spring-arms P Q, substantially as herein shown and described, and for the purpose set forth.

6. The combination of the two pivoted adjustable arms W, provided with catches X, pivoted levers Y, and set-screws Z, the connecting-rod B, and pivoting-rod C, with each other, substantially as herein shown and described, and for the purpose set forth.

FOUNTAIN PEN.—Franzis A. Odermatt and Frank Ettlin, San Francisco, Cal.—88,656.

We claim the pen described, consisting of the hollow handle *a*, pivoted with the flexible parts *b b*, and guard-pieces *c c*, with tube *e*, with cock *d*, and head *f*, with cock *g*, the whole being combined and arranged as described, for the purpose set forth.

CLIP FOR NECK-YOKE AND WHIFFLE-TREE. Z. T. Sweet, Engene City, Oregon, (now at Davisville, Yolo County, Cal.)—88,676.

I claim the clip A, formed by the combination of the arm *a1*, lock-bar *a2*, and catch-spring *a3*, with the perforated body of said clip, substantially as herein shown and described, and for the purposes set forth.

QUILP'S PROCESS WITH SULPHURETS—leading chlorine gas separately into the roasting furnace, followed by a barrel process of dissolving gold, precipitating it again, and then amalgamating both gold and silver—draws the following from an "Inorganic" correspondent:

Quilp asserts that the chlorine gas generated is heavier than the products of combustion, or the vapors evolved from the ore while roasting. So far this is strictly true; but when he declares that it is a *much heavier* medium, he is in error. The weight of the sulphurous acid gas evolved is but very little less than that of chlorine; being as 2.21 to 2.47. Now this trifling difference of gravity is totally insufficient to permit of the lighter ascending through the heavier in the draught of a reverberatory furnace. Again assuming, for argument's sake, that the gold is chlorinated, perhaps "Quilp" will inform us how, at that heat, the chloride can remain such. If chloride of silver be formed, that compound is insoluble in water, and to precipitate the silver from its chloride without previous solution, is a new era in chemistry, the full credit of which is due to "Quilp," which nobody can deny.

The stage of heat employed under the C. H. Williams patent is not stated, so that it is possible a portion of the gold chloride formed may remain undecomposed at the end. The soluble sulphate of silver was probably intended to be provided for in the latter case. Quilp's metallurgy affords suggestive reading matter, but is rather finely theoretical.

The philosophy of chloridizing gold sulphurets when the gold is to be precipitated again before amalgamation, is—though left unexplained—undoubtedly the idea that chlorine gas, having a great affinity for gold, may be used in this manner without any additional external manipulation, to search out and render amalgamatable the refractory "rusty" particles that have baffled millmen.

A POEM, entitled "Fifty Years Ago," illustrating the world's progress, is to be read at the approaching Odd Fellows' semi-centennial, in this city, by George G. W. Morgan.

THE PRESS is one of the most valuable and instructive papers published in the United States, and every miner, millman, machinist and foundryman should be a subscriber. The information to be derived from its columns is worth many fold times the subscription.—*Grass Valley National.*

Company Transactions.

New Incorporations.

New articles of incorporation have been filed, as reported in our exchanges, during the past week, in the County Clerk's office in this city, the Secretary of State's office at Sacramento, etc., as follows:

MINING, FILED IN SAN FRANCISCO.

THE JOHN HANCOCK T. AND S. M. CO.—Object to mine for silver in White Pine District. April 17th. Capital stock, $1,500,000; divided into 15,000 shares of $100 each. Trustees: H. W. Jones, W. K. Dietrick, A. Buswell, J. H. Sager, John Hancock, H. Tietjen and Horace D. Dunn.

NATIONAL M. AND S. CO.—Location of claims White Pine. April 17th. Capital stock $2,000,000; 100,000 shares of $20 each. Trustees, S. J. Murphy, W. R. Dietrick, Peter Taylor, J. H. Gager and A. Buswell.

CHIEFTAIN.—Capital stock $1,000,000; object, tunneling and mining in White Pine. April 21st. Stock divided into 20,000 shares.

NELLIE BUTLER M. AND T. CO.—White Pine. April 22d. Capital stock $1,200,000; divided into 12,000 shares of $100 each. Trustees: Theodore E. Baugh, William P. C. Stebbins and Alphonso F. Tilden.

MAXWELL M. AND T. CO.—White Pine. April 22d. Capital stock $1,200,000; divided into 12,000 shares of $100 each. Trustees: T. E. Baugh, Henry Baker and Wm. P. C. Stebbins.

PITTSBURG T. AND M. CO.—White Pine. April 22d. Capital stock $1,000,000; divided into 10,000 shares of $100 each. Trustees: T. E. Baugh, Peter McConaghey and Wm. P. C. Stebbins.

OSCEOLA T. AND M. CO.—White Pine. April 22d. Capital stock $1,000,000; divided into 10,000 shares of $100 each. Trustees: T. E. Baugh, Wm. P. C. Stebbins and August Buttman.

IXION T. AND M. CO.—White Pine. April 22d. Capital stock $1,000,000; divided into 10,000 shares of $100 each. Trustees: James Anderson, Wm. P. C. Stebbins and T. E. Baugh.

THE THUNDERBOLT M. AND M. CO., to do business in White Pine. April 22d. Capital stock, $2,800,000; divided into 20,000 shares.

THE ECLIPSE CONSOLIDATED M. CO.—Same object. White Pine. April 22d. Capital stock put down at $5,000,000, with 50,000 shares.

THE SOUTH FEATHERSTONE S. M. CO.—White Pine. April 22d. Capital stock $1,000,000, with 20,000 shares.

THE WHANG DOODLE, ARMADILLA, PEN AND SCISSORS, AND REAL DEL MONTE—White Pine. April 22d. Capital stock $2,400,000, divided into 24,000 shares.

MINING, FILED AT SACRAMENTO.

THE PARKER LEDGE CO., mining at White Pine. Capital, $2,000,000, in shares of $100 each. Principal place of business, San Francisco. Trustees—B. M. Hartshorne, D. McLennan, Hiram Tubbs, James P. Hoyt and Frederick Madge.

THE LEE S. M. CO., and the EASTERN ENTERPRISE S. M. CO.—White Pine. They each have a capital of $1,000, in shares of $100 each. S. W. Lee, S. D. Bosworth, W. H. V. Cronise, Ellis Ayers and T. W. Colburn are Trustees for both companies.

THE EUREKA CONSOLIDATED MINING CO. Capital, $1,600,000, in shares of $50 each. Trustees—W. A. Hardie, Edward C. Lovell, James A. Hope, W. B. Rand, J. A. Lukin, J. F. Crosett, A. Rosenfield, Wm. F. Marpe, John Bays and Wm. Stuart.

THE EVENING STAR, No. 1, S. M. CO.—Capital, $1,800,000, in shares of $100 each. Trustees—George W. Beaver, R. G. Brown, M. J. McDonald, J. S. Kennedy and W. R. Wheaton.

THE LATOWANA M. CO.—Capital, $1,920,000, in shares of $100 each. Trustees—J. A. Drinkhouse, E. W. McKinstry, George Platt, Thomas J. Poulterer, John H. Wise, N. Hays and R. Savage.

THE STOCKTON M. CO. and the JOHN DARE S. M. CO., both to carry on the business of mining in the White Pine District.

LAND AND HOMESTEAD ASSOCIATIONS.

SUNNY VALE HOMESTEAD ASSOCIATION. County Clerk's office, April 21. The object is to purchase a portion of the Rancho Visitacion Guadalupe y Rodeo Viejo, and the division of the same into homesteads for distribution among the shareholders. The tract is situated on the borders of the bay, and consists of 800 lots, 30x112. Each share will consist of a full-sized lot, and will be payable in installments of $10 per month each, for twenty-five months, without interest. The capital stock is $200,000, divided into eight hundred shares of $250 each. Officers: Joseph C. Collins, President; Wm. E. Moody, Secretary; James L. Blake, Treasurer; Stephen T. King, John S. Luty, Joseph Winterburn, and Charles Cousins. Office, 708 Montgomery street.

THE WHITE TRACT HOMESTEAD ASSOCIATION.—County Clerk's office, April 22. The object is to purchase fifty-six acres of land in Solano County, known as the "White Tract," being a portion of the Suscol Rancho, and to divide the same into lots suitable for homesteads. Capital stock, $40,350; shares, 269, at $150 each.

MISCELLANEOUS ENTERPRISES.

THE MOUNTAIN SPRINGS WATER COMPANY. County Clerk's office, April 20. The object of the Company is to collect the waters of all the creeks on the south side of the Tamalpais, on the Saucelito Rancho, in the County of Marin, and convey the same to this city. Capital stock, $500,000, in 5000 shares of $100 each. Trustees—Samuel R. Throckmorton, C. R. Bonel and S. R. Throckmorton, Jr.

NEW WATERING PLACE.—THE NAPA SODA SPRINGS ASSOCIATION.—County Clerk's office, April 19. Objects, for the purchasing of the property located in the County of Napa and known as the Napa Soda Springs property, and for the purpose of securing, bottling, and selling the mineral waters of said Soda Springs, and improving and developing said springs and property as a public watering place. Capital stock, $250,000, divided into 250 shares of $1,000 each. Time of existence, 50 years. Trustees, seven in number—Hon. F. F. Low, San Francisco; Hon. John Currey, San Francisco; Gen. E. D. Keyes, Napa; Dr. J. P. Whitney, San Francisco; Dr. John F. Morse, San Francisco; Dr. A. J. Bowie, San Francisco; William Burling, San Francisco.

THE VACA VALLEY RAILROAD COMPANY, organized for the purpose of constructing, owning and maintaining a railroad running between Vacaville, in Solano County, and a point on the California Pacific Railroad distant in a southeasterly direction 3¾ miles. Secretary of State's office. Capital, $50,000, in shares of $100 each. Directors—M. Wilson, G. B. Stevenson, A. P. Bernard, David Dutton, George F. Barker, Richard Thompson, Joshua Donaldson, M. R. Miller, Thomas Deans and Demetrie Pena. The principal place of business is in Vacaville.

Meetings, Elections, Etc.

MINING COMPANIES.

THE ALMADEN G. and S. M. Co., at their annual meeting, held April 15th, elected the following Trustees: J. E. de la Montagnie, A. K. Grim, John Sime, O. Dickinson, Jr., and F. G. Smith.

THE VIRGINIA No. 2 M. Co.—At a stockholder's meeting, held at their office in this city, Monday, April 19th, at which 6,975 shares of the stock were represented, the following Trustees were elected: James P. Clough, J. F. Mitchel, E. B. Drake, John A. Steinberger, John W. Coleman. Subsequently John W. Coleman was elected President, and D. E. Stanford Secretary.

THE TROY LEDGE S. M. Co.—At a stockholder's meeting, held April 19th, the following Trustees were elected: James T. Dean, (President,) John Prince, D. L. Dunlap, J. M. Buffington, (Secretary,) and J. L. Brewer.

THE BULLION S. M. Co. held their annual meeting in Virginia, on Thursday last, April 15th. Following are the names of the Trustees elected: Thomas H. Williams, John Mackay, H. H. Flagg, D. W. Bixley, and F. A. Tritle.

SAVINGS.

SAN FRANCISCO.—A certificate of the election of Trustees of the San Francisco Savings and Building Association was filed in the County Clerk's office April 20th. Their names are F. Cohn, S. T. King, J. Wieland, C. J. Waldenberger and C. Burghofer.

MISCELLANEOUS ENTERPRISES.

THE WHITE PINE WATER CO. At a meeting held April 17th, for the election of Trustees, the following gentlemen were chosen: J. D. Fry, A. P. Stanford, Thomas Bell, Charles E. De Long and A. Hayward. The Board subsequently organized and appointed J. D. Fry, President, and B. Peart, Secretary.

THE SAN JOSE WOOLEN MANUFACTURING CO.—A stockholder's meeting was held at San Jose on the 19th inst., at the office of the Secretary, and elected the following gentlemen Trustees of the company for the ensuing year: V. D. Moody, R. F. Peckham, A. Pfister, S. O. Houghton, T. E. Beans.

Stock Review.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, April 24, 1869.

Financial.

The pressure for money in our local market can scarcely be said to have relaxed. A few days ago a much improved feeling was evident, and business men began to breathe freer; but the displacement from our Branch Mint of faithful, capable and long-tried officers, to make room for political pets, had a very serious effect, because it will necessitate the closing of that institution for some weeks at a period of the greatest monetary stringency experienced here since 1855. As the business of this State is predicated wholly upon coin, the stoppage of its supply will prove our injury beyond the possibility of present estimation. For weeks all our gold refineries have been worked to their utmost capacity to supply the Mint with material for coining, yet the Mint has been barely able to meet the demand. The unfortunate change of officers cannot fail to entail a vast amount of injury to every California interest. Government allows $60,000 per annum for shrinkage on the coining operation of our Mint, but the skill and experience of the removed officers reduced the actual wastage to $10,000, saving $50,000 a year to the Government. Is it for this exhibition of skill, competency and honesty, that these gentlemen have been displaced? Is there any specially vindictive feeling against San Francisco, and California generally, among the counselors and advisers at the White House?

In city stocks the market has been quiet since our last similar reference. We note sales of 10 shares North Beach and Mission Railroad stock at $74 per share, 20 shares Spring Valley Water at $66@66 25, and 50 shares Pacific Insurance Co. at $122 60. At the close 40 shares S. F. Gas sold at $75 per share, and one share Merchants' Exchange at $30.

Mining Share Market.

The activity of the mining share market during the past week was confined to some half dozen prominent stocks, several of which show a very marked improvement over previously reported rates, viz: Hale & Norcross and American. The very favorable developments in the Hale & Norcross impart renewed confidence in the success of finding pay ore in the deep levels of the various mines on the Comstock Lode, and the present vigorous prosecution of work is looked upon very hopefully. The rather restricted operations in Comstock stocks is due to the stringency of the money market and the increased outside investments which require much amounts of cash capital.

It has been the opinion of some that at great depths in the Comstock Lode either no continuous bodies of ore would be struck, or that it would prove of low grade. This opinion was supported by somewhat of experience, but has very recently been overturned by discoveries of a rich and heavy body of ore in the Hale & Norcross, at a depth of upwards of two hundred feet below the sixth level of the Savage mine, and trending in the direction of the latter. As the work progresses the body of ore increases in richness and volume, affording every promise of continuation. This fortunate strike has imparted a more cheerful feeling to stockholders in the claims on the Comstock Lode, and especially so to those of the Hale & Norcross.

There are some twenty mines in Virginia having large amounts of ore on hand, but wholly unavailable, because of their low grade, which will not pay the cost of milling on the spot. Some Virginia mills pay as high as $50,000 per annum for hauling lumber and wood, and the Santiago mill pays $70,000 a year to haul ores from the Yellow Jacket mine. To remedy these drawbacks and utilize the vast masses of low grade ore at the Virginia mines, the project of erecting mills on the Truckee river and connecting them with the mines by means of a railroad has been conceived and will soon be carried to completion. Timber and water are abundant on the Truckee, and it is estimated that the cost of crushing in the Truckee mills will not exceed $3 per ton, for the reason that all other expenses will be reduced by the low railroad freights. The entire cost for transportation and milling is set down at $10 per ton instead of $13 and $14, as heretofore. Under these favoring circumstances, it is asserted that $20 ore will pay quite as much profit at the Truckee mills as $30 ore at the mines. In regard to the railroad, the *Bulletin's* correspondent says: "The business of carrying ore down the grade to the existing mills —six of them are on the Carson river—at present rates, would give the railroad an income of $360,000 a year. The number of mills will certainly be increased. The Union Mill Company will either build new mills on the river or remove some of their others from the towns to the water. This mill company owns upward of 30 mills, mostly engaged in working Comstock ore. The consumption of lumber would, at present rates of freight, give the line an annual income of $500,000 from that source, and the income from hauling fuel would make an equal sum. The idea of the promoters of the road, it is understood, is to make a material reduction on these charges, so that while still leaving the railroad an enormous profit so as to make a difference in the cost of working both mining and reducing low grade ores of about one-third." The same writer adds: "The Comstock lode has always been laboring under the disadvantage of too much cost at every stage of the work. Even in the matter of water, the hills are too heavy for the ore to bear, unless it is very rich. A 25-stamp mill in Gold Hill pays $700 a month for water, and cannot get enough. Its owners would save eleven or twelve cords of wood a day and all the water hill, and get an unlimited supply of water by going to Carson river; but whether they go or stay the railroad will serve them, for if they choose to go, it will bring them the ore from Gold Hill at a dollar or two a ton; and if they choose to remain where they are, it will sell them fire wood at $10 instead of $14."

Reports from White Pine continue to be of the most encouraging character. Facts, based upon figures, are furnished, as incontestible proofs of the extraordinary natural wealth of those mines. The Eberbardt mill of 10 stamps crushes at the rate of 250 tons per month, and last month turned out $100,000. Moore & Co.'s mill, 8 stamps, gives $3,000 per day in bullion, or $75,000 per month of 25 working days. Miller's mill, 10 stamps, turns out $100,000 monthly. Felton & Shaw's mill, 6 stamps, yields $50,000 per month. Moore & Co.'s mill has been purchased by the Eberhardt company for $40,000. Three mills, with an aggregate capacity of thirty-two stamps, turn out $300,000 per month. This is unequaled anywhere else in the world.

ALPHA — declined from $26 to $22, and closed at $26. From a letter dated the 21st inst., we learn that the 1,030 level is again clear of water. They found that the drifts were slightly caved at the sides. Work has been resumed in the face of the cross-cut. No signs yet of the east clay.

AMERICAN—has been in large request, advancing from $38 to $48, and closing at $49. They are now extracting rock, which is reported to yield $38 to the ton.

AMADON (Cal.)—sold to the extent of 83 shares within a range of $285@287 50. This mine continues to yield largely, the first clean-up for the present month amounting to $31,808 in bullion.

BELCHER — sold to a less extent than usual, receding from $19 to $16 50, and closing at $16 75. The mining expenses have been very materially reduced; nevertheless, they are vigorously prosecuting work in the drifts. They have commenced hauling ore from the dump to the mill, and it is believed the returns will give some profit.

CHOLLAR-POTOSI—has been in moderate request, advancing from $183 to $195, and closing at $199. During the week ending April 16th, 1,000 tons of ore were extracted. The yield from the New Tunnel is quite large, and the winze connecting this stope with the sixteenth floor of the Blue Wing has good ore in both drifts that are now being run from it. The prospects are favorable for the ore continuing below the sixteenth floor, and extending further to the south than it does at the tunnel level. Both drifts at the 500 station, Chollar-Potosi shaft, are in porphyry mixed with clay—the ore running south having water. On the 16th inst., bullion to the value of $21,800 was sent forward to the office in this city. The ore slip of the 20th inst., shows that 137½ tons of ore were sent to three custom mills.

GOULD & CURRY — advanced to $117 early in the week, receding to $110, and closing at $112. The material in the bottom of the shaft is mostly quartz, interspersed with small bunches of ore. They will open a new station at a depth of about 1,160 feet, from which drifts will be made.

HALE & NORCROSS—has been exceedingly active during the past week at improved figures, rising from $90 to $132, and closing yesterday at $128. The body of ore recently discovered in this mine has been opened to the extent of 186 feet, and is widening as the drift proceeds northward toward the Savage ground, showing an excellent quality of ore, the assays running very high, and the ore will probably give an average yield of upwards of $40 per ton at the mill. They are extracting 150 tons per day, making about 4,000 tons for the present month, of which amount the lower levels contribute very little as yet. During the week ending April 18th, the 176 and 300 levels yielded 283½ tons, the third, fourth and fifth stations 771¾, making a total of 1,055¼ tons, showing an assay value of $56,318; and during same week they delivered to the mills 894½ tons, leaving on hand 905 tons. The March returns of bullion have been increased to $70,470, with more yet to come in. To the 23d inst., the yield for the current month aggregates $35,644. The yield for the entire month will probably exceed $125,000.

IMPERIAL—has been less active, declining from $73 to $63, and closing at $71 50. The receipts so far during the present month aggregate $14,012—two shipments from the Rock Point and one from the Gold Hill mill. The daily amount of ore extracted from the Alta mine aggregates about 100 tons, with prospects of a slight increase very soon. A telegram of the 23d, says: "The drifts from the Imperial-Empire shaft continue in barren quartz and porphyry."

KENTUCK—declined from $260 to $247 50, and closed at $247....YELLOW JACKET from $61 to $56, and closed at $57 75....CROWN POINT from $56 to $53, closing at $57. The mines, by latest advices, are still on fire, but it is expected that they will be able to resume work by the first of May.

OPHIR—has been quite active, declining from $38 to $33 50, closing yesterday at $34. On the 21st inst., the drift from the shaft was 202 feet in length. They resumed work in the face of the drift on the evening of the 20th, and there seems to be no doubt that they are entering the east clay. They have passed the stream of water which comes in from the south, and the face of the drift is dry and nearly all clay.

SAVAGE—shows a very smart advance at the close, opening at $68, rising to $78, and closing at $77. The present ore deposit in the Hale & Norcross claim, running northward toward the Savage ground is about 230 feet below the sixth station of the Savage company, and may be looked upon prospectively as of some value.... SIERRA NEVADA is held at the advanced rates, small sales having been made at $51 and $53. A run of 9¾ days shows a bullion product of $8,138.

CHINAMEN UNDERGROUND. — The New York *Journal of Mining* inquires of us "whether any Chinamen in the Pacific States and Territories are allowed to work in mines underground," the writer's observation having yet discovered "no instance of the kind." They have been employed and are highly spoken of as strikers, in Calaveras and Tuolumne counties. In hydranlic mining and tunneling Chinese labor is common, in various localities.

Weekly Shareholders' Directory, for Meetings, Assessments and Dividends.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Adriatic, Storey co., April 20, $1	May 22	June 7
Alpha Cons., Storey co., Nev., div. $2	Pay. June 19, '68	
Almaden, Nevada, March 17, $1	April 20	May 3
Accidental, White Pine, March 30, 25c	April 30	May 20
Amador Co., div. $6 per share	Payable April 7, 1869	
Bowden, White Pine, April 14, 5c	May 29	June 14*
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Belcher, Storey co., Nev., March 15, $4	April 17	May 3
Bullion, Storey co. Nev., March 20	Payable immediately	
Cinderella	Annual Meeting May 4	
Cayuga Chief	Annual Meeting May 3	
Capital, White Pine, April 16, 10c	May 17	May 31
Chollar-Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12, 1868	
Coney, preferred Stock, div. 1½ per cent	March 10, 1869	
Cordillera, Mex., March 16, $1	April 20	May 10*
Daniel Webster, White Pine	Annual Meeting May 10*	
Dandy, Lyon co. Nev., March 8, $2.50	April 12	May 1
Enterprise, Nevada co., March 22, $1	April 22	May 8
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $10	Payable April 6, 1869	
El Tusic, Sonora, March 22, 50c	April 23	May 17
Featherstone, White Pine	Annual Meeting May 5	
Folsom St. & Ft. Pt. R. R March 13, $5	April 13	April 30
Glenwood, El Dorado co	Annual Meeting May 7	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill M. & M., dividend, $7 50	Payable April 13, 1868	
Golden Chariot, Idaho, div. $2.50	Payable March 20, 1869	
Ooldon Rule, Tuolumne co, div. 50c ₱ sh	Pay April 7, 1869	
Hope Gravel, Nevada co	Annual Meeting April 27	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hope Gravel, Nevada co, April 6, $1	May 10	May 31
Independence, Sierra co	Annual Meeting May 3	
Imperial, Storey co., Nev., div	Payable June 20, 1868	
Julia, Storey co., Nev., March 19, $2.50	April 22	May 10
Julia, Storey co., Nev	Special Meeting, April 26	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Lyon M. & M., El Dorado co., Mar. 6, $1	April 12	April 26*
Mocking Bird, White Pine, April 15, 10c	May 20	June 7
Mt. Tenabo, Lander co., Jan. 23, 75c	April 29	April 27*
Morning Star, Alpine co., March 3, $2	April 5	April 26
Noonday	Annual Meeting April 27	
New Idria	Annual Meeting April 26	
North Star, dividend, $5	Payable Aug. 15, 1868	
North Amer. Wood P. Co., March 17, $1	April 14	May 1*
Original Hidden Treasure	Annual Meeting May 4	
Oneida, Nevada	Annual Meeting May 3	
Occidental, div $2	Payable March 2, 1869	
Overman, Storey co. Nev., March 20, $20	April 23	May 8
Planet, Arizona	Annual Meeting May 3	
Pacific Unassessable, div	Payable June 18, 1868	
Pacific, Coal, Contra Costa co., Mar. 20, $4	Ap. 27	May 17*
Quail Hill, Calaveras co., April 2, $10	May 11	May 31
Rathbua, White Pine, April 19, $1	May 25	June 14
Silver Cord	Annual Meeting April 28	
San Buenia Ventura	Annual Meeting May 20	
Siempre Viva, Mex., April 15, $1	May 21	June 7*
South Virginia, White Pine	Annual Meeting April 27	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1	Payable Jan 5, 1869	
Savage, Virginia, Nev., dividend, $4	Payable April 4, 1869	
Senator, Storey co., Nev., March 25, 50c	May 1	May 22
Silver Sprout, Inyo co., March 25, 5c	May	May 28*
Sierra Nevada, Storey co., March 15, $3	April 17	May 3
Sierra, Douglass co., Nev., March 25, $8*	April 28	May 14
Troy Ledge, White Pine, March 16, 15c	April 23	May 24*
White Pine Water, Lander co., April 14, $50	May 22	June 19
Williamanatic, White Pine	Annual Meeting May 18*	
Williamantic, White Pine, March 22, $1	April 24	May 12
Virginia Cons., Storey co., April 14, $1.50	May 19	June 5
Virginia & G. H Water Co.	Dividend, April 16, 1869	
Yellow Jacket, div., $5	Payable March 15, 1869	

Those marked with an asterisk (*) are advertised in this onrasl.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD

FRIDAY EVENING, April 23, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 20s, 1865, '67, '68	$ 86	87
United States Bonds, 5 20s, 1864	87½	88
United States Bonds, 5 20s, 1862	88	89
Legal Tender Notes	75¾	76
California State Bonds, 7s, 1857	93	—
San Francisco Bonds, 10s, 1851	par.	& Int.
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	83	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par	& Int
San Francisco City and Co. Sch'l Bds, 7s, 1866	90	91
San Francisco City and Co. Bonds, 7s, 1862	90	91
San Francisco City and Co. Bonds, 7s, 1864	90	91
San Francisco City and Co Bonds, 7s, 1865	90	91
San Francisco City and Co. Judg. Bds. 7s, 1863	90	91
San Francisco City and Co. Judg. Bds, 7s, 1864	90	91
Sacramento City Bonds	90	91
Sacramento County Bonds, 6s	70	91
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	80	85
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s	75	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	68	70
Spring Valley Water Co	66¼	66¾
State Telegraph Co	26	—
GAS COMPANIES.		
San Francisco Gas Co	77	—
Sacramento Gas Co	—	55
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	72½	—
Central Railroad	80	—
North Beach and Mission Railroad	74	75
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	161
People's Insurance Company	100	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	93	100
Pacific Insurance Co	122	123
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	100	101
Home Mutual Insurance Co	19¾	20
Occidental Insurance Co	85	90
MINING STOCKS—WASHOE DISTRICT.		
Alpha	26	26½
Baltimore American	—	—
Belcher	16	17
Button, G. H	17	—
Crown Point	56½	57
Cole (Va.)	—	20
Confidence	26	34
Consolidated Virginia	6	—
Chollar-Potosi	190	200
Dancy	3½	4
Exchequer	12	14
Empire Mill and Mining Co	64	65
Gould & Curry	112	113
Gold Hill Quartz	—	45
Hale & Norcross	132	133
Imperial	63	63¾
Julia	2½	3½
Justice and Independent	—	—
Kentuck	247	248
Lady Bryan	8¾	9
American	49	50
Occidental	26½	27
Ophir	34¼	34
Overman	66¾	—
Segregated Belcher	7	8¼
Savage	77	78
Sierra Nevada	53	54
Union	—	—
United States	—	—
Yellow Jacket	57½	58
MT. CALLAVERAS MINING STOCKS.		
Amador (California)	285	287½
Aurora, White Pine	—	15
Eureka, (California)	—	240
Golden Chariot (Idaho)	42¾	45
Silver Cord (Idaho)	11	11½
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocotillo, White Pine	12	—

San Francisco Market Rates.

Wholesale Prices.

	FRIDAY, April 23, 1869.		
Flour, Extra, ₱ bbl	$4 75	@	$5 37½
Do. Superfine	4 25	@	4 50
Corn Meal, ₱ 100 lbs	2 25	@	2 50
Wheat, ₱ 100 lbs	1 40	@	1 55
Oats, ₱ 100 lbs	1 75	@	2 00
Barley, ₱ 100 lbs	1 90	@	1 90
Beans, ₱ 100 lbs	6 00	@	7 00
Potatoes, ₱ 100 lbs	50	@	75
Hay, ₱ ton	9 00	@	15 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	11	@	12
Sheep, on foot	3 00	@	3 25
Hogs, on foot, ₱ lb	6	@	7
Hogs, dressed, ₱ lb	9	@	10
GROCERIES, ETC.			
Sugar, crushed, ₱ lb	—	@	11¾
Do. China	10	@	12
Coffee, Costa Rica, ₱ lb	19	@	20
Do. Rio	18	@	19½
Tea, Japan, ₱ lb	75	@	90
Do. Green	50	@	1 25
Hawaiian Rice, ₱ lb	—	@	10
China Rice, ₱ lb	6	@	7
Coal Oil, ₱ gallon	47	@	48
Candles, ₱ lb	16	@	18
Ranch Butter, ₱ lb	35	@	36
Isthmus Butter, ₱ lb	33	@	36
Cheese, California, ₱ lb	15	@	18
Eggs, ₱ dozen	15	@	45
Lard, ₱ lb	15	@	16
Ham and Bacon, ₱ lb	14	@	16
Shoulders, ₱ lb	7	@	8
Retail Prices.			
Butter, California, fresh, ₱ lb	45	@	60
do. pickled, ₱ lb	35	@	—
do. Oregon, ₱ lb	20	@	25
do. New York, ₱ lb	35	@	45
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	55	@	60
Lard, ₱ lb	16	@	18
Hams and Bacon, ₱ lb	20	@	25
Cranberries, ₱ gallon	1 00	@	1 25
Potatoes, ₱ lb	1¾	@	2
Potatoes, Sweet, ₱ lb	3	@	5
Tomatoes, ₱ lb	3	@	—
Onions, ₱ lb	5	@	—
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	10	@	12
Peaches, dried, ₱ lb	10	@	12
Oranges, ₱ dozen	75	@	—
Lemons, ₱ dozen	50	@	75
Chickens, apiece	75	@	1 00
Turkeys, ₱ lb	30	@	35
Soap, Pale and C. O	10	@	12
Soap, Castile, ₱ lb	20	@	—

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

	FRIDAY, April 23, 1869.		
IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Steel, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2¼c ₱ lb.			
Scotch and English Pig Iron ₱ ton	$ —	@	$45 00
White Pig ₱ ton	36 00	@	37 00
Refined Bar, bnd assortment ₱ lb	03	@	—
Refined Bar, good assortment, ₱ lb	04	@	—
Rolled, No. 1 to 4	04½	@	—
Plate, No. 5 to 9	—	@	04½
Sheet, No. 10 to 13	04½	@	5
Sheet, No. 14 to 20	05	@	5½
Sheet, No. 24 to 27	05	@	6½
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb			
Sheathing, ₱ lb	—	@	26
Sheathing, Yellow	20	@	21
Sheathing, Old Yellow	10	@	11
Bolts	21	@	22
Composition Nails	21	@	22
TIN PLATES.—Duty: 25 ₱ cent. ad valorem.			
Plates, Charcoal, IX, ₱ box	12 00	@	—
Plates, I C Charcoal	—	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs, ₱ lb	—	@	35
STEEL.—English Cast Steel, ₱ lb	—	@	15
QUICKSILVER.—₱ lb	55	@	60
LEAD.—Pig, ₱ lb	7¾	@	8
Sheet	10	@	—
Pipe	11	@	—
Bar	9	@	9¾
ZINC.—Sheets, ₱ lb	10¾	@	11
BORAX.—California, ₱ lb	35	@	38

PANAMA RAILROAD CO.—An election for Directors of the above company was held at Tontine Building, New York, April 5th, in the offices of the same, with the following result: William H. Aspinwall, Jos. W. Alsop, James M. Brown, Henry Chauncey, Edward Cunard, Fred. G. Foster, David Hoadley, Gouverneaur Kemble, Chas. P. Leverich, Howard Potter, David Stewart, Chas. W. Riley, Wm. White Wright, Jr.

POETRY AT THE MINES.—California gold diggers are, as a rule, liberal, whole-souled fellows, but there is one article in general use among the fraternity, that no miner is either willing to give away or sell, if he happens to be far remote from the source of supply. This precious commodity is PLANTATION BITTERS, the value of which, as a safeguard against malarious fevers and a support and solace under privation and hardship, are well understood by every member of that adventurous class. Last Fall, a miner who was "prospecting" on one of the tributaries of the Mariposa, had a bottle of the elixir (the only one he possessed) stolen from his tent. After having obtained, with some difficulty, a fresh supply from Sacramento, he scrawled the following lines on the lid of the box containing it:

"Who steals my "dust" steals trash, these yellow diggin's
Afford the means to pay me for such priggin's;
But if I catch them, woe the mean critters
That robs my tent of PLANTATION BITTERS."

PIONEER LAND AND LOAN ASSOCIATION.—CAPITAL $1,000,000—INCORPORATED FOR 50 YEARS. This new incorporation is under thoroughly responsible management, and offers greater inducements for the legitimate investment of money than any other Association in the State. Books, with prospectus, can be obtained at the office of the Company, 304 Montgomery street.

C. MULLER, Oculist, 205 Montgomery street, deals in all kinds of spectacles. If you cannot apply in person you can be fitted by sending description, age, etc.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

From the *Chronicle*, April 10th:—The Pennsylvania has levied an assesment of $2 per share. The mine looks promising, and an additional force will be put on next week.

Miner, 10th:—The rock now encountered in the face of the Mt. Bullion tunnel is said to contain considerable quartz and to look like being a ledge.

AMADOR COUNTY.

Ledger, April 17th:—Letter from Ione City:—The San Francisco Co., which is running a tunnel in the vein near town, have got in 50 feet. The vein is improving in size and quality,—the rock yielding about $46 to the ton by working process. Our coal mine has added to the life and thrift of our village. Those big mule teams, five or six of which are hauling coal to the quartz mills above, make quite a stir. The coal is drawn out of the tunnel by a horse car. It is the intention to put up an engine. The tunnel is in about 300 feet.

EL DORADO COUNTY.

PILOT HILL.—Placerville *Democrat*, April 17th:—The Boulder claim continues to pay handsomely. It is owned by Messrs. Blue, Martin, Owens and Rogers. We are informed that it has yielded the present season, the result of two months' work by four men, 100 ounces of gold. With a sufficient amount of water, and properly worked, it will yield three and a half ounces per day to the man. It is estimated that there are from four to six acres of ground in it that will pay.

GEORGETOWN.—The claim of Halls, Beebee & Co. continues to improve as they go down. There is no doubt that the owners have a fortune. Georgia Slide has a five and a ten stamp mill, and Woods & Co, are making preparation for another ten stamp mill. The Taylor mine owners will immediately add five more stamps to their mill, and have the main shaft sunk 100 feet deeper.

KERN COUNTY.

Havilah correspondence of Visalia *Delta*: The pump in the Joe Walker mine has given out, and nothing can be done until a new one is procured. The mine is too valuable to remain idle long. The Delphi mine has changed hands, McKeadney having sold out to George P. Dalton of Grass Valley, who is superintending the works, and expects to run the mill night and day after ten days. The New York and Clear Creek Gold Mining Co's mines are still idle, but report has it that the Co. have levied an assessment and will begin work. Col. Rand is still prospecting his mine—the rock in the shaft is very hard, but it is down over 300 feet, and good rock is found whenever a drift is run to the ledge—the shaft being sunk back of the foot wall.

MARIPOSA COUNTY.

BUCHANAN.—From the *Mail*, April 16th: The mine known as the Buchanan Copper Mine, is now owned and worked by Vilas & Co. and is yielding richer ore than ever. The Co. has between 80 and 100 men employed. The ore, a portion of which is reduced to "matte," has during the winter accumulated to thousands of tons.

NEVADA COUNTY.

SCOTT'S FLAT.—*Gazette*, April 12th: The American claims are running 200 inches of water, and employ five men. The Hueston claims are using 200 inches, and employ four hands. These claims are said to be paying well. Morrow & Co. are running 150 inches of water and four men. Cobb & Co. have eight men, and use 150 inches. This company are said to be making one hundred dollars per day above expenses. Ashburn & Co. on the opposite side of the creek, will soon be hydraulicing. Beau & Co. will commence hydraulicing to-day, working four men and running 200 inches of water.

MOONEY FLAT HYDRAULIC CO.—Same of 13th: Incorporated yesterday to carry on mining on the claims known as the Union, Kinder, Sycropolis and others.

SNEATH & CLAY MILL—same of 14th: Commenced crushing rock on Monday. The company have one hundred and fifty tons of rock on hand, and expect soon to keep their twelve stamps running. At present they employ twenty-four men underground, besides those in the mill and hoisting works.

The Telegraph company have located fifteen hundred feet on the Allison Ranch ledge, commencing at the southern boundary line and extending southerly.

MILL PURCHASE.—15th: Fogarty & Company have purchased the Collins cement mill at You Bet, and have contracted to have the machinery removed to Jones' Bar.

LITTLE YORK, 16th.—Atkins, Cozzens & Co. are putting a large amount of iron pipe in the Gardner. They are taking out from $1,700 to $2,200 at a run of two weeks.

YOU BET.—W. H. Duryea, is doing an extensive hydraulic business. His receipts average about $1,500 for every two weeks' run....Ed. Williams is running two sets of claims, using 800 inches of water, and employing seventeen men. The yield of gold averages over $1,000 for every fifteen days. ....Neece & West, who have been running their cement mill for several years, have shut down and commenced hydraulicing, and the ground is said to be paying well. ....Hussey & Co., with 250 inches of water and five men; King & Co., with the same and four men; McManus & Co., with 100 inches and three men; Brockman & Co., with 200 inches and four men; and Henry Stahr with 250 inches and four men, are making their regular runs with better prospects....Brown Bros. are running their cement mill night and day, and are taking out better pay than ever. Report says that for the past few weeks they have been taking out $4,000 to $5,000 a week. They employ from sixteen to twenty men....The towns of Red Dog and You Bet are nearly deserted, the miners mostly living at their claims....The claims at Remington, Lowell, Hunt's and Quaker Hills, and other places in the township, are in active operation.

SCOTT FLAT.—The claims of the American company cleaned up Wednesday, after a run of eight days, and yielded over $1,000. They employ four men and use 200 inches of water.

SAN JUAN.—*Transcript*, 11th: Business is lively. The mines along the Ridge are yielding handsomely.

Same of 14th: The county prospects were never better. Parties are sinking upon the Talbott ledge in Willow Valley. The Banner and Pittsburg are yielding handsomely, and other mines will soon be started up, the Mohawk among them. It is reported that the California will be started before Fall, and the old Nevada mine will soon fall into the hands of men who will work it. The Rising Star, Cornish and other mines down the creek are doing well.

FIDELITY LEDGE.—Same of 17th: This is now being worked and rich quartz is being obtained. There is a stratum of rich gold bearing sulphurets a foot thick, on the lower side of the ledge, which assays $500 to the ton.

Grass Valley *National*, April 10th: Rock now being taken from the Bowery claim near Dead Man's Flat, averages $50 to the bucketful. They are down 75 feet on the ledge, which is from six inches to a foot in width and looks well.

WILLIAM PENN MINE.—Phil. Painter, Jas. Edwards, and others are putting down a shaft, and are down about 50 feet. Ledge from 18 to 24 inches thick. A small engine of 8-horse power does the pumping and hoisting. The rock resembles that of the Eureka.

MINING SALE.—Same of 12th: We hear it reported that the southern extension of the Allison Ranch mine has been sold, or bargained to be sold, for the sum of $140,000.

WISCONSIN MINE.—13th: The water has all been pumped out. They commenced taking out ore to-day. The mine looks well.

IDAHO MINE.—This mine cleared up on Saturday $9,000 after a run of eight days.

Same of 14th: In Rhode Island Ravine, the La Cross ledge is being worked with success. On Gold Hill, new shafts are being sunk and men are making good wages. Men on Cincinnati Hill are taking out good rock. Some crushed recently paid $29 to the ton.

Grass Valley *Union*, 13th: Yesterday fifty feet of the Wm. Penn mine was sold to Ben. Macauley for $5 50 per foot cash—Macauley paying the assessments.

ALLISON RANCH MINE.—This is now in the hands of an incorporation, and will be speedily opened. Two pumps will be at work by the end of this week. The mill, which has a battery of twelve stamps, each stamp weighing a thousand pounds, will be started up to-day or to-morrow, and will crush waste rock from the dump pile. The great richness of the old dump pile is owing to the fact that in the early days they disregarded all rock except that which showed well, and years of exposure has freed the gold. The incline is down only 465 feet to the lowest level. There are four levels, and not one of them has been worked out over 700 feet. When the work stopped the ledge was as well defined as ever, the rock showing a working value of $30 per ton.

NORTH STAR MINE.—Same of 14th: The workmen are now engaged in preparing to put in the new pump of sixteen inches in diameter, to be worked by a sixteen inch cylinder engine. It is believed that this will enable the mine to be worked to an indefinite extent, in spite of water.

HOPE GRAVEL COMPANY.—15th: It is thought that the new shaft will strike about midway across the old river bed. We yesterday found that the miners had passed through the hard cement and come to the pipe clay which overlays the gravel deposit. The sinking, from this time forward, will be comparatively easy. The new shaft is 12 by four feet in the clear. All the machinery for the new pumping apparatus is on the ground.

SCANDINAVIAN.—16th: The mine is turning out good rock. The company are working the ore with two arastras driven by water power, and getting about $100 per ton.

MEADOW LAKE.—This town, which boasted but two years ago two theaters, a Stock and Exchange Board, thirteen hotels, and 3,000 souls, is to be numbered among the things that were. Only about 200 persons, great and small, passed the winter there.

PLACER COUNTY.

RICH SPECIMENS.—The Auburn *Stars and Stripes*, April 15th:—We were shown yesterday a very rich specimen from a newly discovered ledge, one mile southeast from Colfax. The parties engaged in prospecting the ledge took out in a short time about $1,500, crushing the quartz in a common hand mortar. The Rising Sun have lately struck good rock at the depth of 300 feet. The Live Oak has lately started up. One-half interest in it was recently sold for $10,000.

PLUMAS COUNTY.

Quincy *National*, April 10th:—The Caledonia Co. are pushing ahead the work in their drifts, and expect to strike the Big White ledge soon. Judkins & Kellogg's mine is paying as well as usual. Cahalan has run out on his ledge about 30 feet, and hopes to find an abundance of good pay rock soon. The Crescent Co. have 13 men at work in the mine.

La Porte *Union*:—The miners at Saw Pit have an abundant supply of water. All of the hydraulic companies have commenced piping. Water was turned loose against the bank in Conly & Gowell's diggings, near this town, on Tuesday last.

SIERRA COUNTY.

Downieville *Messenger*, April 19th:—Water has come at last, and pipes are running night and day in all the Northern portion of the county. Although the season will be short, there is a prospect that much ground will be worked.

Newark correspondence:—The different companies commenced to wash, with flattering prospects. The Swift Sure company struck an inside lead in their claim, of fabulous richness. Cook is running his tunnel to strike the same lead, with good hope of success. The Nevada Co. have got their new incline completed—raising the cars and water by water-power. The Nip and Tuck, Reading and North America, are paying handsomely.

SISKIYOU COUNTY.

Yreka *Union*, April 14th: Oscar Witherill is sinking a prospect hole in the suburbs of Yreka, near where Brady & Co. have struck such rich cement in their claim. ....We understand that there are but 11 companies of Chinamen mining on Humbug now, against 26 companies there one year ago.

The United Quartz Co. have sunk on their ledge to the depth of 100 feet. They have purchased the mill erected by Sleeper & Co. some years ago on the South Fork, and will remove it to the vicinity of the ledge.

SONOMA COUNTY.

The Petaluma *Journal and Argus* has visited the new silver mines. It says: The Davis claim is on Faylon Creek, near the mouth of Graham's Cañon, and is believed to be of considerable value. The assay of ore sent to San Francisco shows a yield of $10.56 per ton, and Mr. Davis has refused several liberal offers for his interest. Nearly south of the Faylon Creek is the South Fork. On this creek we collected a number of specimens of quartz, among them some with signs of cinnabar. The rock in both creeks is principally decomposed quartz, of a bluish color, and easy of reduction. Several gentlemen have located claims on this ledge; and it would not surprise us if their enterprise proved a profitable one. We presume there are at least 500 claims staked out in the district, all bearing more or less signs of paying rock. The general opinion of the people of the neighborhood is that it will pay to work the rock, and several companies are in process of formation. There is every advantage necessary for mining in the way of wood and water. Our own opinion is, that there is no use of rushing headlong into the speculation, as the indications are not up to our idea of what they should be.

TRINITY COUNTY.

Journal, April 17th: Mining operations continue to be pushed with energy throughout the county, and with flattering prospects. The miners have no time to lose now, as water will soon begin to slacken; but notwithstanding the extraordinary shortness of the mining season and the great scarcity of water, we believe that all hands will come out even, if not ahead.

TULARE COUNTY.

Visalia *Delta*,—White River Letter: There is not much doing here in the mines at present. T. B. Caggle, and E. Hammoud, have ground-sluiced about 5,000 yards of Gordon's Gulch, during the past winter, and are now cleaning up—they hope it will average a dollar a bucket. The Philadelphia Co. in running their adit, run the vein out. A. J. Maltby has resumed work on the Eclipse.

TUOLUMNE COUNTY.

THE OLD BUCHANAN MINE.—Sonora *Democrat*, April 17th:—This claim is again giving evidence of great wealth. Mr. Breur started a level 38 feet below the original tunnel and now has a vein from two and a half to three feet in thickness, which for 100 feet in length, will pay from $20 to $40 per ton. The crushing of 46 tons yielded last week 112 ounces of gold.

MINE SOLD.—The Detweiler and App Quartz Mine, near Poverty Hill, in Quartz Mountain, was sold last week to Frederick Griffing for the sum of $45,000.

COLORADO.

GRANITE DISTRICT.—Denver *News*, March 24th:—The Treasure Mining Co's mill has started up again. It is crushing ore from the Magenta lode. The Niagara Co's mill is about to start up on ore from the Monarch. The Yankee Blade Co. are erecting a 20-stamp mill, and Mr. Newhouse is preparing to do the same. There will be 87 stamps running in Granite next season.

Same of April 7th:—The branch mint run into bars, in three days, 1086.98 ounces of gold. On Saturday there was turned out the largest gold bar ever made in Denver, 322.55 ounces.

Herald, March 24th: Robert Teat's silver mine has been improving. Last week the vein of solid rich ore was two feet thick. Yesterday the workmen broke into a body of ore four feet wide. Dr. Blatchley has been running one of his pans on raw ore from this mine, with astonishing results.

THE CONQUEROR LODE.—The owners—Jerry Haskins and the two Disbro brothers—have been working since last fall a year ago. They have sunk a shaft and timbered it to a depth of about 200 feet. In doing this they had to pass through 100 feet of lean ore. They have now rich ore six feet wide, so soft that no powder is required, a pick and shovel are all. They are putting up a engine for hoisting. The mine will yeild ore to supply 100 stamps.

Central City *Register*, April 1st: Judge Dickerson is fitting up his 15-stamp water mill on Clear Creek....An assay yesterday of ore from the Fletcher lode gave 208 ozs. silver, and 3¼ ozs. gold per ton. Coin value $459.74. The lode is being worked by William Cook....To-day Dr. Blatchley starts up his pans in the Excelsior mill on Circassian ore....The Unexpected lode, in Lake Gulch, is producing more ore than ever before, and of a much better quality. The iron yields 11 ounces per cord under stamps....Two assays of Flora Temple sulphuret ore yielded No. 1, 8 ounces, gold, and over 400 ounces silver, per ton; No. 2, 5 ounces gold, and about 60 ounces silver.

SUGAR LOAF MINES.—Correspondence of the *Boulder Miner*, March 24th:—Mr. P. E. Gleason has hands erecting his stamp mill; will have it running in two months.....The Lincoln lode has a tunnel in 90 feet, and shows a fine vein of ore....The Hinman has a tunnel in 60 feet, showing a large vein of pyrites....The Bald Prairie has been opened to a certain extent for a half mile in length. Some remarkable rich specimens, showing native gold, have been taken out....The Legal Tender croppings show that it is a strong vein, and filled with sulphurets of silver....All the above lodes are on the North side of the Four Mile creek, and good roads can be made to all. The creek has water to supply any number of steam mills the year round. There is an abundant supply of wood.

Same of 31st: Sanders & Co. are working the Black Tail lode, on Left hand. It shows very rich argentiferous copper ore..... Strock & Co. have most of the material on the ground for an arastra....Steward, Gillespie & Co. are busy at work on the Gray Eagle lode. They have developed a fine vein of rich silver ore. Depth of shaft 50 feet....Bottolfsou, Fullen & Co.'s ten

stamp mill at Gold Hill is approaching completion....William Brierly & Co., on the Williams lode. Have some eight or ten cords of quartz, worth from $125 to $150 per cord, and a fine crevice of rich ore in sight. Bottolfson & Co. will run their surface quartz ...Carter, Blake & Co. have commenced mining on the Old Pay, silver lode, at Sugar Loaf. This lode carries some very rich ore, worth from $300 to $500 per ton ...Gleason & Co. have nearly all the timbers out for their stamp mill. They expect to have it in operation early in May....The Hoosier has a fine body of rich ore in the shaft, which is down 140 feet ...Duncan & Co., of Dexter Point, are making preparations te work the Legal Tender....M. Towner & Co. will commence working their gulch claims on Four Mile creek in a few days....Mr. Osborne is opening a gulch claim....Mr. Jackson will resume work on his gulch claims in a short time. The indications are that Four Mile creek and Gold Run will be worked more this summer than ever before.

THE HOOSIER MILL.—The Heesier mill owners, by their present plan of desulphuring, obtain from 85 to 95 per cent. of the silver contained in the ere. They obtained $60 per ton, (coin value) from ore that only yielded $5 per ten by raw treatment. They find their process exceeds their most sanguine expectations.

CENTRAL DISTRICT.—Jamestewn eerrespondence: There is sufficient material now on the eurfaco te keep the present arastras running for several weeks. The Cobh mill, 12-stamp, is undergoing slight repairs.

John Keen and George Jackson have reaumed mining on the American, Nottawa, and Stanley ledes, and are raising fine ores. Silas T. Tomlinsen and Johnson Miller will werk the Merrimac and Lest Child lodes. John Virden will work the Neikirk lode. Boyd & Co. sre working a new lode which promi'sce well. Uncle John Knoup & Co. are preparing to work their lodes. Capt. Hall, superintendent of the Topeka Co., has writteu frem Beston that they contemplate erecting reductien works.

Georgetewn *Miner*, April 1st: The Brown Company will seon have ready for shipment another immense plate of silver bullion....Huepeden & Co. have shipped, aince our last report, $847 85....Stewart's reduotion works are in successful operation. All thut is necessary for these works to produce from $1,000 to $2,000 per week is a full supply of ore. Two Blatchley pane aro in operation, doing well, both on raw and chlorodized ore. Stewart has treated four and a half tons of gold ore, from Empire, from which he obtained 82 per cent. of the assay. The amount of bullion produced by the new pans, within a week, is $635 09. All of the ore has been low grade. Next week he will start up on ore from the Mendota.

IDAHO DISTRICT. —Bennett, Wright & Co. commenced work on Thursday, with three men, and cleaned up, on Saturday, 6 ounces of clean gold....Benuzy, Koons & Co. are sinking a pit helow Grass Valley, not to hed rock yet....Legault & Co. are prospecting two miles below Idaho...Fitzpatrick & Co. are getting ready for the summer...Gus. Reader is stripping ground this side of the big bridge.

IDAHO.

ASTOR.—*Tidal Wave*, April 9th: Walsh & Warnkee have worked Astor ore in Black's mill. From Messrs. Walsh & Warnkee we get the number of tons, and from the assayer's certificate we learn the ounces of bullion and value, as follows: 13,500 pounds of ore produced 608 ounces of bullion, worth $1,364.86 coin value, or $209.97 11-100 cents per ton of ore.

ATLANTA.—SOUTH BOISE.—A 3-pound chuuk of ore from this lode which has been shown us, is exceedingly rich. Mr. Atkins and his company have run a tunnel in on the ledge 180 feet, commencing in a gulch low dowu the hill. Nothing in the mine has been found to equal the rock now being produced from the extreme end, where they are now at work. Mr. Clemens saw a piece weighing 100 pounds taken from the same place, that assayed $12,000 per ton, by chipping in various places so as to arrive at an average. Some selected rock from the main ledge assayed $26,000. The Minerva and other mines in the same neighborhood, theugh not so large as the Atlanta, assay quite as well. In fact, Yuba is just beginuing to attract attention: Mr. Atkins has a small prospecting mill on the Atlanta, with which he has been working the rock of that ledge during the winter, and for want of easy means of transportation has kept the product on hand, which now amounts to forty odd thousand dollars in bullion.

The Owyhee *Avalanche*, April 10th, has these FLINT ITEMS: We learn that the Rising Sta; Mining Co. is realizing about $1,000 per day. The expenses of the mill and mine are estimated at nbout $350 per day, which would leave a clear profit of $650 per day for the company.

Superintendent Hall has consented to let five stamps of the mill for the purpose of custom work, to accommodate the boys of Flint.

Messrs. Walsh & Warnkee breught in between 1,300 and 1,400 ounces of bullion, the proceeds of 6¼ tons of rock from the John Jacob Astor lode. And there is any amount of just as good reck in sight. The mine is now very wet, but in the course of a week they think it will be dry enough to commence eperations.

MONTANA.

BANNACK.—Helena *Post*, March 12th: The water will be running in the big ditch ou or before the first of next month, and then tho placer will commence with vigor. It is stated more gold will taken out in Bannock the coming summer than ever before.

PHILLIPSBURG.—Mr. Louis Bugher has discovered n silver lead running parallel with the Rumley & Bugher lode, which prospects finely. This new lead is abeut ten feet in width.

HIGHLAND.—April 2d: We had the eatisfaction of observing Professer Steitz melting into a single bar three lumps of retort which weighed over 720 ounces, the product of 14 tens of tailings from the Myers & Thompson lode.

It has been suppesed for a long time that there was an immense bank of pay gravel between Last Chance and Dry Gulch. We learn that Messrs. Whitney & Mason have been prospecting upeu this bar. They have sunk five shafts varying from 25 to 40 feet in depth, in each of which goed prospects were found. In some shafts they have found as high as 85 cents te the pan, but the average prospect was from five to nine cents.

RED MOUNTAIN.—In the Day lode, near Meese Creek, in the vicinity of Highland, the crevice is about 3½ feet wide at a depth of 70 feet. Frem ten pounds of reck which was taken at random from the richest portion of the pay crevice, four ounces nine pennyweights was taken. A pay streak of this kind of rock over 20 inches in width extends the entire length of the lode, and ie uniform in width as the depth increases.

SILVER STAR.—Tom C. Stevens, one of the owners of the Trivitt & Stevens mill, arrived last evening with 320 ounces of gold, the resnlt of five days' run with 12 stamps, the rock crushed being from the Iron Rod.

Letter from Nelson Gulch: Soveral companies are sluicing below discovery claim, and the dirt pays from $20 to $100 per day to the hand. Messrs. James and John Spears have had about six men at work this winter. Their dirt pays from $75 to $100 per day to the hand. From discovery to No. 11, below discovery, are a large uumber of pilos of dirt, which will pay very handsomely when sluiced. There is not a claim in the whole gulch hut what will pay from $16 to $100 per day to the hand when sluiced. The only thing necessary is plenty of water.

Deer Lodge items: Uncle Ben's Gulch is opening up very richly....The miners on Pilgrim Bar are making extensive preparations for mining....The Pike Peak ditch, running to the head of Pioneer Gulch is almost complete, and in about two weeks mining will commence in Pioueer Gulch.

NEVADA.

RUMBOLDT.

PRIDE OF THE MOUNTAIN.—*Register*, April 10th:—Winnemucca correspondent says: Buck & Kimble, the proprietors of this mine, left here this week for San Francisco with 70 tons of assorted ore. I think this is the largest shipment of ore ever made from this couuty at any one time. It made seven car loads. They are having their mine worked night and day, and are sinking an incline, which is now 170 feet. In sinking down, the ledge improves both in width, richness and permanency....Clark & Mullen have re-located the Etna ledge, in Prince Royal District, formerly owned by an Eastern Co., but abandoned three years ago. The new owners went to work in the old tunnel at a point where the old Co., under direction of a tape-measuring New York Superintendent had run over the vein, and in three weeks' time have opened a ledge rich in black sulphurets of silver ....The Pioneer mill is being repaired and remodled. A new 30 horse-power engine has been added, and two of the largest sized Wheeler puns ...Jake Strandeger, ou the Christiana ledge, has a large and well defined vein, abounding in ore of a superior quality....Ten and one half tons of ore from the Grunt mine, in Indian district, recently worked at the Pioneer mill, yielded $148 per ton....The Silver Mining Co. shipped 2,192 ounces of bullion.

FAIRVIEW.

The White Pine *News* of April 6th, says: The owners of the Illinois Ledge, after having run a tunnel of 1,200 feet, have struck their vein at a great depth and have obtained ore valued at $150 per ton.

REESE RIVER.

Belmont *Champion*, April 10th:—Work is progressing on the Enterprise claim with good results. The level north from the bottom of the shaft, 175 feet, is disclosing a ledge frem 17 to 20 feet wide, all of good milling ore, while a large propertion of it is chloride ore which will work from $600 to $1,000 per ton.

We learn frem Palmetto, that Col. Catherwood's mill started up again on Monday. The Kentuck and Champion mines never looked se well as at the present time.

HOT CREEK.—Cerrespondence ef the Belmont *Chronicle*: "I feel confident that a 20-stamp mill in Rattlesnake Cañon could be kept constantly running, on reck that would yield from $50 to $125 per ton. The rock could he extracted at a small cost."

WASHOE.

[In the Stock Circular, in anether portion of this paper will he found late mining news from this district.]

THE FLOWERY MINE.—Territerial *Enterprise*, April 16th: The ore now being raised from the shaft pays $34 per ton, that being taken from the open cut and incline $25, and that in the end of the north tunnel $46, hy mill process.

OCCIDENTAL.—Same of 17th: The lower tunnel is now witbin 50 feet of the lead, which it will cut 400 feet deeper than the present werkings.

TWIN.—This mine, at Silver City, continues to yield pay ore, and the ledge is found to be richer as depth is attained. The rock is easily worked, and it is essentially a geld vein, containing little or no silver.

SUNDERLAND MILL.—This institution, in Lewer Gold Hill, has been shut down for repairs the last two or three days, but again started up on ore from the Central mine.

GOULD & CURRY.—Workmen are still engaged in sinking the main shaft, through quartz of the most promising character.

The Sierra Nevada Co. now have in sight sufficient ore to run for four months, equally as rich as that which they have been working for the past two months.

OREGON.

Jacksouville *Sentinel*, April 10th: Dillon & Bowden, who owu nine-tenths of the Occidental ledge, have sunk on it about 70 feet, and at that depth it has wideued to about two feet. It was almost impossible to break a piece of the rock last taken out and not find gold in it; we saw specimens that were nearly half gold.

White Pine Summary.

RICH STRIKE.—White Pine *News*, April 3d: We understand that an exceedingly rich ledge, which has been called the Paula, was struck a few days since in the San Francisco tunnel, a few hundred feet east of the Hidden Treasure.

THE CRŒSUS.—Same of 6th: The mill at Hamilton yesterday turned out a quantity of bullion from ore from the Crœsus mine near the Hidden Treasure.

DR. BROWN.—*News*, of 7th: Some parties owning the Saginaw "ledge," offered a "green" new-comer bearing the above name, 200 feet if he would sink a 30-foot shaft, "or until he struck pay." The first blast he put in brought "good indications," and the second revealed a mass of $2,000 oro.

BLACK CLOUD.—Same of 8th: In the progress of opening, the vein is exposed to a width of about 20 feet. This tocation was made on the 19th of January, and we understand that the sum of $125,000 has been offered for it.

NEW DEVELOPMENTS.—The *News* of 13th: From the Ward Beecher and the Sage Brush, the chlorides are pouring out by the ton. The Beecher is near the Aurora, and the Sage Brush is in the middle of the southern portion of Main street. Upon the Webstera shaft has been sunk about thirty feet in depth, and the ore extracted is encouraging. A few rods south of the Daniel Webster is the Panhandle. These veins run parallel to the Eberhardt; a short distance east of them is the Alta.

Same of 14th saye: A rich strike ie reported in the Umatilla, at the lower end of Bromide Flat. The body of ore struck is so rich that it is shoveled into sacks in the mines as it is torn loose, without assorting. ....The Evening Star ledge shows a width of seven feet, and has out several tons of ore which is estimated to work $500 per ton. Some ten men at work on the Ocha Vera have developed an extensive ledge of 7½ feet in width. It is opened for 40 feet on the surface, with numerous excavntions, from which ore is taken giving nn assay of $1,300 per ton.

ANITA.—*Inland Empire*, April 14th: Werk is progressing rapidly, and the further dewn the shaft is snuk the better the ore. It is on the read from Hamilton to Shermantewn, the ledge crossing the road directly west of Treasure City. The ledge is four feet wide at the depth of ten feet, and assays well. There are now 20 tens of the ore from the shaft on the dump, which will be sent to mill next week.

MILLS AT SHERMANTOWN.—*News*, April 3d: Several mills are in course of construction at Shermantown. One by the Metropolitan S. M. Co.. of which Alpheus Bull is President, and Peter Johnson Superintendont, will have 15 stamps. Another, by the Kohler S. M. Co., of which A. Staples is Superintendent, of eight stamps, with preparations for one of 20 etamps. Another of five stamps is being erected a short distsnce below the Kohler. General Page is also about erecting one of fifteen stamps, and several others are in contemplation.

Same of 14th: The Oasis has 10 stamps and eight amalgamating pans, and crushes nine tons of ore daily from the Eberhardt mine. The averuge product is now about $700. The ore is crushed dry, but not roasted, it being a chloride and easily amalgamated. We were shown a large bin of pulp worth $6,000 per ten. This ie too rich to be amalgamated conveniently and successfully hy itself, and is therefore mixed with pulp of a lower grade. A great amount of ore ie stored aheut the mill, enough to keep it running for half a year without calling for any from the mine. At the Moere & Parker mill the same condition prevails. The latter is of eight stamps, and reduces six tens of ore daily. The ore is also from the Eberhardt mine, which, from the easy manner it is mined, has accumulated far in advauce of the eapacity of the mills to reduce.

MILL AT HAMILTON.—Virginia *Enterprise*, April 15th: The 10-etamp mill of Mr. John McCone will start up on the 20th inst.; just 90 days from the day that work was commenced on the machinery of the mill at the Nevada Foundry.

OUTSIDE DISTRICTS.—*Empire*, April 10th:

GRANT AND TROY.—The Pacific M. & M. Co. will have a mill by July next. Andy McDonald is at work on the Blue Eagle in Troy, for an association of capitalists in San Francisco, who recently purchased the mine for $50,000.

The Poorman, Patriarch, and Ramshorn, are among the prominent ledges in Grant, and show rook impregnated with chlorides. The Blue Eagle is the most noted lode in Troy. They all constitute one general mineral helt.

PATTERSON.—Same of 14th: John M. Murphy, the Recorder of Pattersou District, says there have heen 225 distinct ledges struck, from one to twenty feet wide. The character of the country is the same as here—limestone formation. The country is finely wooded, and water can be got almost nuywhere by sinking. There are about 400 people in the district. The top rock assays from $50 to $2,000 per ton.

ROBINSON.—James A. Marschal, just arrived from Robinson district, brings very flattering accounts, and says they have an Eberhardt there, assays from which average $480 per ton, of top rock.

SILVER CANON.—Chisholm and Ramsdell returned to Hamilton yesterday, after an absence of 20 days through the ranges of mountains running in an easterly direction. They located a district about 110 miles from here, which they call Silver Cañon District. The ledges are numerous, and are found in granite and limestone formations. The ores look well, and one assay has already been made, indicating profitable yield.

ELY.—*News*, April 12th: The Ely is a base metal district, but the ore produces from 50 to 80 per cent. of lead, which contains from $200 to $800 in silver, and assays at the rate of thousands of dollars per ton have been obtained.

COOS BAY COAL.—A business letter from Empire City, Coos Bay, says: There are now in this port, loading with coal and lumber for San Francisco, one barkentine, one barque, four brigs and five schooners. The new steam tow-boat, Escort, owned by John Perschbaker, has arrived from San Francisco. She is said to be one of the finest tow-boats owned this coast. The coal mines formerly owned by J. Perschbaker have been purchashed by a company of capitalists of San Francisco, who intend to do a large coaling business.

RICH GOLD FIELDS have been discovered on the northern frontiers of Norway and Russia.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

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Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Traveling Agents.

WM. H. MURRAY, California.
DR L. G. YATES, California.
ISAAC G. STREET, Oregon.

Resident Agents.

OAKLAND.—W. B. Hardy.
CALIFORNIA AND NEVADA.—S. H. Herring.
SACRAMENTO—A. S. Hopkins, No. 70 J street.
WHITE PINE DISTRICT.—Alex. Bruckman, Hamilton, Nev.
HELENA, Montana.—E. W. Carpenter.
BLACK HAWK, C. T.—Harper M. Orahood.
CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.
GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.
DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.
CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.
OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.
Mr. A. C. Knox, is our only soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:

Saturday Morning, April 24, 1869.

Notices to Correspondents.

PYROTECHNIST.—Gun cotton may be prepared for small experiments, by the following method: Mix in a glass vessel 1½ fluid ounces of nitric acid (sp. gr. 1.45) with an equal bulk of sulphuric acid, and after the mixture has cooled, pour in upon 100 grains of fine cotton, contained in a Wedgewood mortar, and with a glass rod imbue the cotton as quickly as possible with the acids. As soon as the cotton is completely saturated, pour off the superabundant liquid, and with the aid of a pestle, rapidly press out as much of it from the cotton as possible. Then throw the cotton into a basin of water, wash it until it has not the slightest acid taste, afterwards dry by means of a gentle heat.

J. P., SILVER CITY.—Gutta Percha is obtained from the East Indies. You are correctly informed that it is most extensively used in England as outer soles for boots and shoes, and that it forms a most economical and durable material for that purpose. It is put on by cementing the old boot or shoe to the gutta percha sole, by means of a preparation of gutta percha dissolved in naphtha, which is sold at the shops, where the soles can also be purchased, thus enabling every man to be his own cobbler; an advantage that would be of some consequence in many remote mining localities.

STIBIUM.—Glass of antimony is prepared by partially roasting the tersulphuret of antimony (gray antimony ore) and subsequent fusion. There are several steps in the process that have to be carefully attended to in order to produce a good article. When the operation is properly performed the resulting mass will be found to consist of ter-oxide of antimony and some decomposed sulphuret. Well prepared glass of antimony is transparent; when held between the eye and the light it appears of a rich orange red or garnet color, but if imperfectly made, it presents a black and opaque appearance.

BLACK BEAR MINE, KLAMATH COUNTY.—We know of no machinery in operation in what is called the Eureka process, nearer than Mariposa County; there is none in this city at least, capable of working a ton for you as a test. The appliances for working by this process were sent to a mine in Sierra County about six months ago.

G. S. MELBOURNE inquires whether the Hagan Kilne Roasting Furnace is an "undoubted success," as stated in a California paper, and whether it is really true that the burning of hydrogen "carries off the base metals in a volatile form." We are informed that a report is about to be made, by a competent judge, on the recent tests which that furnace has undergone in Calaveras County. The base metals are certainly not volatilized.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

Shaking Hands by Rail.

As we write, probably not more than twenty miles of track remain to be put down, before the Central and Union Pacific Railroad Companies will clasp hands at the laying of the *last rail* that unites two oceans and completes the grandest engineering enterprise ever undertaken by man. The progress and final completion of this great work, in the presence of the waiting multitudes upon either extremity, has been most aptly referred to, as suggestive of the meeting of two friends, who have been long separated by distance and the various vicissitudes of life; and who, on approaching each other, extend their arms to full length, to perform that very common-place, yet most cordial greeting—the shaking of hands.

For many long months, and for years, the two armies of workmen upon the Central and Union roads have been toiling their way up steep mountain declivities and through deep and rocky cañons, leveling when practicable and surmounting when necessary, all offering barriers to their progress. Unlike hostile armies, these two great bodies of peaceful toilers are coming together, not with clashing swords and booming cannon to spread death and destruction at their meeting. Their mission has been to level a smooth highway over a vast continent for the peaceful occupation of commerce, and friendly salutations and most cordial greetings await upon either hand their welcome coming.

How difficult to realize that this stupendous work is so near completion; but a few days—nay hours, only,—are to intervene before the telegraph will announce to us that the last rail has been spiked, and that California has been annexed to the balance of the Union by indissoluble bands of iron.

As the welcome message will be carried east and west, literally with lightning speed, deafening screeches will go up from thousands of locomotives; as the news flashes by, every steam whistle, far and near, from one extremity of the Union to the other, will join in the screeching chorus—a fitting recognition that an uninterrupted way is open for the iron-horse from ocean to ocean, and from the southern gulf to the northern lakes.

For some weeks past it has been impossible to arrive at any definite information with regard to the point of junction between the two roads; and for awhile an unpleasant contest seemed to be waged between them, the result of which was watched with much interest. But, like two grand armies who have fought a great fight, and find nothing farther to be accomplished by a continuance of the contest, they have wisely suspended hostilities to properly reap the benefits and adjust the losses incident to the campaign.

The two companies having agreed upon Ogden as the point of junction, (the most proper and fitting place therefor), have now united forces, to close up the gap at the earliest practicable moment. Although the rails will be united, the work of completion will still remain to be done. Within a week or ten days, however, after the actual junction, we may reasonably expect to see a fair establishment of travel over the entire road, and look for regular mails from New York within seven days at the outside. In that event the recent irregularities in that branch of service will only be regarded as an appetizer to enable us to relish more heartily the utmost realization of the hopes of the most sanguine of the Pioneers of the Pacific Coast.

WET PROCESSES IN COLORADO.—Mr. John Agrell, a former chlorination pupil of Deetkin's, and manager of works of the kind in Amador county, has taken his departure for Colorado, for the purpose of introducing there some of the wet processes practiced in the Pacific States.

Mineralogical and Geological Notices.

ALUM IN SONOMA COUNTY.—We have to record this week another locality among those heretofore noticed in this State, where natural alum occurs. The Sonoma *Democrat* of April 17th, says: Our county seems to have nearly everything within its borders. Coal, copper, silver and gold have all been found. Last year a soap mine (steatite) was discovered, and now a mine of very strong alum has been brought to light on Hood's Mountain, about four miles from the Guilicos Ranch, between Sonoma and Santa Rosa. We have in our possession a piece from the mine, looking something like a quartz specimen, which tastes like strong, pure alum.

CHLORIDE OF SILVER DISSEMINATED IN LIMESTONE.—A small piece of massive crystalline limestone shown us by Mr. Foster, has chloride disseminated through the limestone, and so intimately incorporated with the substance of the lime mineral, as not to alter its uniform crystalline character, or appearance in any other manner than by giving it a tinge of brownish color—the rock assaying, according to Mr. Foster, not far from $100. Chloride seems to penetrate and discolor the limestone, according to this, in zones following cracks. Almost anywhere in Treasure Hill traces of this kind are said to exist. The piece in question was thrown away amongst the "cullings" of the Eberhardt.

WHITE CLOUD ORE.—Some very beautiful specimens including crystals of blue carbonate of copper (lasurite) are exhibited at No. 503 Montgomery street, amongst the rich gold, silver, lead and copper ores from White Cloud District, Nevada,—referred to in our last issue.

THE STATE GEOLOGICAL REPORTS.—A Cambridge correspondent, alluding to Prof. Whitney's labors, says:

"I know that he is hard at work on *three* books, and makes almost daily visits to the printing office. I always find him busy when I call. Like him better the more I get acquainted with him, and regard him as one of the strongest men in his line in the country—even if not at the very head of the list. His manner and style of lecturing is refreshingly different from our other University lecturers. He is more blunt, and less polished in the arrangement of his sentences, and his comparisons smack more of the rough life of the explorer than the sedentary confinement of the professor. * * * Our excursion (a geological party to the Rocky Mountains and California) is not completely planned, but we expect to start about the end of June, and get back about the 1st of October.

CONTRIBUTIONS FOR OUR CABINET.

No. 291.—*Cinnabar* from the Belle Union Quicksilver mine near Oakville, Napa Valley. Presented by Henry Rohling, of Gravel Pit. The ore is a beautiful light red, pure, crystalline, and is disseminated in segregated veinlets through the cretaceous country rock. The Santa Clara, Monte Diablo, Vallejo and Napa localities, besides a score of others where small quantities have been found, denote that the sources of quicksilver are very general throughout the cretaceous rocks of California.

No. 392.—*Cement gravel* from the ancient river channel, known as the blue lead, at You Bet, Nevada County; resting on and firmly cemented to a fragment of chloritic slate, the cementing material being iron sulphurets, showing the protoxide color. On exposure to oxygen the red color of peroxide soon takes the place of the bluish and greenish protoxide of iron. Whitney speaks of these channels a little indefinitely as pliocene, but the probabilities seem that they were not formed until the glacial epoch, which is usually considered as post-pliocene. The chloritic slate is much more ancient, dating from the jurassic ocean whose deposits constitute the field of the auriferous quartz veins. Presented by K. M. Brown & Bro., who have an 8-stamp water-power mill employed in crushing it.

No. 393.—A similar specimen from King & Bro's mine, Dutch Flat, showing gold on the smooth impression of a boulder. The smooth clayey surface showing gold which is so frequently noticed in the hydraulic mines, is always in place on the top or side of the boulder, while the dirt underneath is barren.

No. 394.—Gold quartz containing *zinc blende*, galena, and iron pyrites, from the "Lucky mine," Grass Valley.

No. 395.—San Bernardino asphaltum. It contains about 20 per cent. of petroleum, and is itself apparently a thickened petroleum, containing the less volatile and less fluid portions of the carbureted hydrogens that come to the surface, whose precise origin is yet in dispute, but is generally believed to be the natural distillation product of ancient vegetation, now enclosed in the rocks. It is solid, brownish black, of wax glance, and scarcely as hard as steatite, but the mineral is found from the hardness of "rock" to putty, and the condition of oozing streams, at the bottom of cliffs, passing into springlets of limpid oil. The supply of asphaltum from the quarries is said to be unlimited. There is no reason why it should not be shipped to San Francisco cheaply enough to pave every sidewalk in the city. Presented by Christy & Wise, of the Asphaltum Drain Pipe Factory on King street, between Second and Third.

No. 396.—Hornblende of the variety called *actinolite*.

No. 397.—Three shades of trachytic porphyry. From the east side of Monte Diablo, south of Clayton.

No. 398.—Beautifully variegated, veined, coarsely crystalline limestone, of a grey, brown, and white color, suitable for ornaments, pillars, table slabs, etc. Dry Creek, Alameda County.

No. 399.—Calcspar crystals, being very flat rhombohodrons, on limo and iron-rust incrustations. Hastings' copper mine, two miles south of Clayton, Contra Costa County.

No. 400.—Iron pyrites superficially deposited on a silicious decomposition product resembling pitchstone. Hastings' copper mine.

No. 401.—Indurated clay, resembling porcelain, from San Pablo Creek.

NAVAL.—We are pleased to learn that Jonah Hanscom, father of the Hanscom brothers of this city, and for several years naval constructor at the Portsmouth Navy Yard, has been ordered to the Mare Island Yard, in place of Melville Simmons, transferred to Portsmouth. Mr. Hanscom was formerly attached to the Mare Island Yard, and was the first United States Naval Constructor on this coast. The "Saginaw" was built under his superintendence. Since he has been at Portsmouth he has superintended the construction of not less than thirteen war vessels, one of which was the double turreted monitor "Agamenticus," which is mate to the "Monadnock," now at the Mare Island Yard.

PACIFIC RAILROAD CELEBRATION.—A call has been issued by the officers of the Mechanics' Institute for a convention, to be held on Wednesday evening next, to make arrangements for a celebration of the completion of the Pacific Railroad, All associations and organizations in the city and vicinity, are invited to send delegates. The convention will be held in the lecture room of the Mechanics' Institute, No. 27 Post street. The people of Sacramento are also making extensive arrangements for a fitting celebration of this important event. We presume the celebrations of the two cities will fall upon different days, so that those who desire to do so can attend both. Extensive preparations are also being made at Chicago and other Eastern cities for appropriate commemoration of this important event. We have elsewhere alluded to the manner in which the actual laying down of the last rail will be noticed in this State, and probably all through the Union.

California Academy of Sciences.

The regular meeting of the California Academy of Sciences was held on Monday evening last. Capt. Edward Pennix and L. A. Gould, of Santa Clara, were elected members, and Mr. Herman Simon, Mr. Segret Simon, and Mr. Eugene Evenstine, were proposed for membership.

Several saline incrustations from Mono Lake were received, as donations to the cabinet.

President Blake called attention to the stereoscopic views of Indian sculpture, which had been forwarded by Charles Crocker, Esq., of the Central Pacific Railroad. He said they looked as if they were made with some object, as there was a similarity between many of them; yet he thought they would be difficult to interpret.

Dr. Kellogg exhibited a singularly large and beautiful plant, very desirable for the florist, recently found by him on the San Joaquin river. It was a much larger and finer plant than either the *Leptosyne* or *Tuckermannia*, or their allied *genera*, with which it was nearly connected. He thought it would do away with those, and bring them all back to the old *Linean Coreopsis*. After reading a description of it, he proposed for it the name of *Coreopsis Californica*. He also found specimens of wild chicory, which might be used as an article of food as salad.

A letter from Mr. Stewart, of San Jose, was read, which gave an account of a remarkable exhibition of parhelia lately observed at that place.

Dr. Blake said the recent earthquake had not been noticed at Watsonville. He concluded that earthquakes were generally confined to one range of mountains at a time—sometimes along the Coast Range, and sometimes in the interior.

President Blake thought that hydrogen could be classed as one of the metals. It was known to lengthen wire by absorption, and when evolved from it by heat the wire would shorten.

After some further discussion on minor points the Academy adjourned.

A PLEA FOR THE BETTER SUPPORT OF THE SOCIETY.

It may not be improper, in this connection, to allude to a short communication in a recent number of the *Bulletin*, from the Corresponding Secretary of the Academy, Mr. Leo Eloesser, in which that gentleman makes an earnest appeal to the public for a better support for this institution. After alluding to the great benefits which have accrued to the world of science through the untiring and disinterested efforts of this association, and to the absolute necessity which is found for the existence of such societies, in order to the performance of that preliminary work through which alone all the splendid results of science are finally wrought out, for the benefit and enlightenment of mankind, Mr. E. says:

"Is it not the plain duty of society to aid such an institution in the pursuit of objects most vital to the interests of whole communities? Should not they who acknowledge the importance of such an undertaking, and who enjoy all the fruits of its success, be willing to contribute a trifle to the working expenditures of that undertaking? Whilst even in this community, where time is money, men of ability and considerable attainments have ungrudgingly given their time and labor to the increasing demands of the Academy of Sciences and its objects, it is but reasonable to expect that an enlightened public will comprehend the propriety of taking henceforth such an interest in the welfare of the Academy as will lessen at least the pecuniary burden which rests upon its active members. The expectations of the Academy in reference to the public are at least not extravagant. The public are only invited to join the Academy in the capacity of paying members, and by contributing a trifling monthly fee, enable the working members of the Academy to publish their observations and discoveries, and make them useful to the whole community. No scientific qualification is required of those who apply for membership, and those who are ever willing to learn will always find an opportunity to do so at the meeting of the Academy and at their occasional lectures, and the publications gratuitously given to the members."

GRAFTING WAX.—The Nevada *Gazette* gives the following recipe: Four parts of resin, two of beeswax, one of tallow, melted together. If to be used in cold weather, add a half more of the tallow.

Resources and Developments.

GOVERNMENT LANDS.—The amount of Federal land open to purchasers in this State is rapidly decreasing. Within the last five years not less than 12,000,000 acres has been set apart as railroad grants, although only about 1,000,000 have as yet been surveyed and located. The State has also, under a general Act, become the owner of some three or four millions of swamp and overflowed lands. There is now left in preëmption only about 40,000,000 of good agricultural lands, which are being rapidly taken up, mostly in the San Joaquin and other counties to the south of this city. Lands which have been used chiefly for grazing purposes, and which three or four years ago were not worth ever $1.25 per acre, are now in demand at from $5 to $10. The extraordinary agricultural developments of the last few years, and the approaching completion of the Pacific Railroad, with the anticipated increase of immigration, account for the extraordinary increase in prices. The above enumeration of lands is exclusive of the mineral belt, which includes all that portion of the Sierra Nevada which lays, say 500 feet above the level of the sea; much of which has been proved to be very valuable for agricultural purposes, and which is now beginning to be sought for, through titles from the various railroads and from the Federal Government.

THE BERRY CROP promises most abundantly the present season; also stone fruits, cherries, peaches, apricots, etc., will be abundant and cheap. Our Atlantic friends, who may visit us the coming season, may depend upon enough and to spare of the most delicious fruit which the world can produce. Strawberries are already becoming quite plenty in this market at thirty cents per pound.

A SAWMILL AT WHITE PINE.—A party which lately purchased a sawmill at White Pine for $18,000, is reported to be clearing $800 per day, clear of expenses. That is not a bad mine.

GRAIN ELEVATORS.—The Vallejo grain elevator, the first upon the Pacific coast, is fast progressing toward completion. It is intended to have it in readiness to handle the first grain of the incoming crop which may reach Vallejo.

In connection with the above we may again allude to the fact that Mr. A. Hayward and other San Francisco capitalists have recently purchased all the water front from the foot of Montgomery street to Powell, and propose to erect thereon docks, grain elevators, etc. The proposed Stockton street improvements have been suggested in connection with this heavy purchase. A grain elevator, above all other improvements, is one most needed in this city. The present mode of handling grain in this State is a direct tax on the farmers, several times greater than all other taxes, national and State put together. Whatever will cheapen the cost of handling grain enables buyers to give a larger price to farmers for it; hence we look upon the proposed introduction of elevators as a marked advance in the development of the resources of the State.

SILK CULTURE.—Increased attention appears to be directed toward the production of silk, especially in Los Angeles county, where nearly 1000 acres have been planted with mulberry the present year. This will be equivalent to about three million cuttings. Mr. Newman estimates the value of this year's crop of cocoons, for that county alone, at $40,000, allowing seventy-five cents per pound. The silk, after reeling, will be increased to the value of $125,000. The next year's produce is estimated at a ten fold increase. The first mulberry trees for silk growing in that county were set out in 1867. Last year but three acres were occupied with the mulberry—the three has increased in one year to nearly 1000.

THE CULTIVATION OF FLAX is also attracting increased attention. A tract of 250 acres has been sown by Mr. W. D. Perine, on the coast, some twelve or fifteen miles below this, and not far from Half Moon Bay. This, we believe, is the largest single tract yet placed under flax culture on this coast. Heretofore the culture of this plant has not been profitable in this State, from the fact that there has been no market for the fibre; the seed, alone, will not pay. Hereafter, however, the Oakland Cotton Manufacturing Company, which is fitting up their mill with machinery for manufacturing flour and other sacks from flax, will be able to purchase all that will be raised for several years to come. Mr. Perine proposes to prepare the fibre by the process of "half dressing," by which the flax is rotted, broken, and freed from most of the wood, and which he thinks will cost only about $25 per ton, while the material so prepared will be worth $75 per ton, leaving a profit of $50 per ton, in addition to the sale of the seed, as the net profits of the crop. These figures may be somewhat exaggerated; but there is no doubt a fine field here presented for a limited culture of this product.

CLIMATE OF PUGET SOUND.—There has not been a particle of snow at Port Townsend, Puget Sound, during the past winter; and ice has not made over one-fourth of an inch thick. The grass has been green all winter, and wall-flowers, pansies and daises have been in constant bloom. This locality, it should be recollected, is above the 48th degree of latitude—a point nearly an entire degree north of the most northernmost point of the State of Maine. Our Eastern readers will, no doubt, be greatly surprised at the above fact. Port Townsend is in what was the extreme northwestern corner of the Union previous to the purchase of Alaska.

LUMBER AT WHITE PINE.—A load of lumber recently sold at Shermantown for $300 per thousand feet.

ROAD IMPROVEMENTS.—The Salinas and Pajaro Turnpike Company has been invested with necessary powers by the Supervisors, and the road will speedily be ready for use. Good roads are an indispensable requisite to the development of any country, and the construction of such, everywhere, should be regarded as important steps in industrial progress.

San Francisco, April 19, 1869.

MESSRS. DEWEY & CO., Patent Agents.—*Gentlemen:*—Allow me herewith to tender you my sincere thanks for the efficient assistance you have rendered me in securing my patent, and other papers, as well as the promptness and energy displayed by you in our business transactions. Very respectfully yours, C. E. JAYCOX.

RETURNED.—Dr. J. B. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

PHOTOGRAPHY.—FOR CABINET PHOTOGRAPHS, or Enameled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
10v18-6m B. F. HOWLAND.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block San Francisco. 6v18-3m

PAIN KILLER!

The Great Family Medicine of the Age. Taken internally, it cures
Dysentery, Cholera, Diarrhœa,
Cramp, and Pain in the Stomach,
Bowel Complaints, Painters' Colic,
Liver Complaints, Dyspepsia and Indigestion,
Sore Throat, Sudden Colds,
Coughs, etc., etc.
Used externally, it cures
Boils, Felons, Cuts,
Bruises, Burns, Scalds,
Old Sores, Sprains, Toothache,
Pain in the Face, Neuralgia,
Rheumatism, Frosted Feet, etc., etc., etc.
The Pain Killer is sold by all Druggists and dealers in Family Medicines.
KENDRICK & CO. and HOSTETTER & SMITH, San Francisco, Cal., General Wholesale Agents. 4p1m

PACIFIC
Rolling Mill Company,
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Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.
☞ Orders addressed to PACIFIC ROLLING MILL COMPANY Post Office, San Francisco, Cal., will receive prompt attention
☞ The highest price paid for Scrap Iron 9v14-3m9p

PROSPECTUS
OF THE
HOMESTEAD FARM
ASSOCIATION.
This Association proposes to dispose of
50,080 ACRES
Of the finest Agricultural Lands in the State of California by dividing the same into
313 SHARES,
—or—
160 Acres Each,
Payable in THIRTY-SIX equal Installments, of $25 each,
Payable Monthly, Without Interest.

The land is situated in Kern County, on the southwest of Tulare Lake, and extends to the foot-hills on the west. Every acre of the above land is so situated that there is no waste, and can be plowed in one body if desired. Water can be had at from twelve to twenty feet on any part, while wood exists in abundance in the foot hills. The west bank of the lake is high and the country is free from malarious or climatic fevers, and offers to the enterprising settler an opportunity for procuring a home upon easy terms,

The projected branch of the Southern Pacific Railroad passes through the entire tract, and will, without doubt, be completed by the time the land will have been paid for by the shareholders.

TITLE, U. S. PATENT.

Maps of the land will be ready in a few days. The Books of Subscriptions were opened at the office of
KURTZ & SHAEFFER,
Northeast corner of Sacramento and Battery streets, at 10 A.M., FRIDAY, April 23, 1869.

E. BRIGOS (of Son & Briggs).....President
JOSEPH ARON (of Weil & Co.).....Treasurer
JOHN KURTZ (of Kurtz & Shaeffer).....Secretary

Trustees:
THEODORE LEROY.....Banker
W. B. CUMMINGS.....Merchant
H. CORDES.....of Feldman & Co
JULIUS JACOBS.....of Germania Life Ins Co
H. O. SEARING.....Drayman
PAUL NEUMAN (attorney at law) of Whiting, Napthaly & Neuman.
17v18-1t

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For Concentrating Gold, Amalgam, Sulphurets or Black Sand, in Quartz Mills,
OR PLACER MINES.

It is made without iron work, is cheap, durable, and effective; can be made by any good mining carpenter at the mine or mill, of sizes to separate the Sulphurets from one to fifty tons of sand per hour. There is no expense for motive power, or to handle the sand, if it can be run from the mine or mill directly into the receiving sizing boxes by means of water. It is continual, self-discharging, and can be used for concentrating fine gold and black sand, on the river bank or ocean beach. They may be seen at work in the American Company's Mine at North San Juan.
For information how to construct, and the cost, address
ORLANDO JENNINGS,
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Crucibles.
The Patent Plumbago Crucible Co.,
Manufacturers of all kinds of
Melting Pots, Portable Furnaces,
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THE MORGAN PATENT CRUCIBLES have uniform quality, never crack, withstand the greatest heat without danger; heats more rapidly than any other; change of temperature has no effect on them; stand on the average forty to fifty pourings.
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BUCKELEW & CO.,
Importers and Jobbers of
Choice Teas, Groceries and Provisions.
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To White Pine Owners and Others.
Abstracts of Titles to Mining Claims, Town Lots and Lands furnished, Mines examined and reported on by a competent person now residing in Treasure City. Mining Claims, Town Lots, etc., bought and sold on commission. For information apply to BIBLEMAN & CO., 605 Montgomery street. 15v18-1m

THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It has donned a new-style hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

Machinists and Foundries.

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Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
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MANUFACTURE ALL KINDS OF

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Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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NEW GRINDER AND AMALGAMATOR

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AMALGAMATOR AND SEPARATOR,

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WITH PALMER'S PATENT STEAM CHEST,

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Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

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Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

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BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Chaleenge Pumps, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first-class work, and we intend to do no other.

GODDARD & CO.
San Francisco, May 1, 1868. 18v10jf

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Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,
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Globe Iron Works,

STOCKTON, CAL.

KEEP & BARGION,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.
13v13if

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

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9v13-1y

FOUNDRY FACINGS.

BENJAMIN ELLIOT,

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Manufactures Foundry Facings constantly, from choice coals. Bituminous, packed in tight sacks. Anthracite and Charcoal ground together or separate, packed in whole or half barrels. Black Lead, Coke and Soapstone ground to order. Foundrymen located far from choice material, can rely on having superior Facings forwarded to order.
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Miners' Foundry

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MACHINE WORKS

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San Francisco.

HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS.	**FLOUR MILLS,**
SAW MILLS,	**SUGAR MILLS,**
POWDER MILLS,	**PAPER MILLS**

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS,	**HOISTING WORKS**
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—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE,

The most compact, simple in construction, and durable, of any Engine in use.

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Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

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BOILER MAKERS

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Flue or Tubular **Boilers,** with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v18tf

UNION IRON WORKS,
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WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

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LIGHT AND HEAVY CASTINGS,
of every description, manufactured 24v16qr

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All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.
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MACHINE WORKS,

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Between Main and Spear.

New and second-hand

Engines and Boilers,

FOR SALE.

Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

PRACY'S

New and Improved

STEAM ENGINE

REGULATORS,

The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S

Shingle Machines

on hand.

Particular attention paid to Repairing.

☞ All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

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Cyclops Engine and Machine Works,

Construct and Repair every description of

Stationary and Marine Engines, Mill and Mining Machinery.

Special attention given to Repairing Machinery.
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Incorporated, April 30, 1868. Capital, $1,000,000.
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Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 24v17-qy

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Fire-Proof Doors and Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge, Prison

FORGING AND MACHINE WORK,

IMPROVED FIRE-PROOF SAFES,

FIRE AND BURGLAR-PROOF SAFES,

Of a superior make. Sole manufacturer of the celebrated

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BANK VAULTS AND SAFES,

Of every description, made to order at short notice. A large stock of SAFES of all kinds constantly on hand. Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the
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MACHINE WORKS,

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Particular attention given to repairs on Portable and Stationary Engines; also all kinds of Wood Working Machinery; Shaftings, Hangers, Pulleys, etc. made to order; Screw Cutting, Iron Planing, and all kinds of JOB WORK promptly attended to.

Agents for F. S. Perkins' Engine Lathes, Planers, Upright Drills,

And all kinds of MACHINISTS' TOOLS; also the Davis Wood Planer and Mire Dove-Tailing Machines.

CITY IRON WORKS COMPANY.

CLERC & CO.,

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Steam Engine Builders and Makers of all kinds of Machinery.

6v116qr No. 28 Fremont street, San Francisco.

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office San Francisco.

Railroad Items.

LUMBER BY RAIL.—A NEW RAILROAD PROJECT.—The Stockton *Independent* says that in view of the growing demand for lumber, the rapid diminution of timber in the redwoods, and the constantly increasing difficulty of obtaining a supply from Oregon, a number of men have under serious consideration the project of reaching the most accessible and heavily wooded regions of the western slope of the Sierra Nevada Mountains by railroad. The proposition is (and it is quite a feasible one) to construct a road from the neighborhood of Fletcher's sawmills, or a point say ten miles east of Sonora, Tuolumne County, pursuing a course westward along the lowest lands between the Stanislaus and Tuolumne rivers, crossing the San Joaquin River at the most available point in Stanislaus County, and connecting with the Western Pacific Road at or near Livermore Pass. In the neighborhood of Fletcher's mills the lumber is as good as can be found in the world, and the supply is almost inexhaustible. It is estimated that were a railroad constructed to that point, not less than three hundred millions of feet of lumber would be carried over the road annually; and that amount yearly could be procured near the eastern terminus of the road for ten years to come without much difficulty. So earnestly is this project under the consideration of mountain lumbermen, that they propose to grade the road and supply the ties and necessary timbers and take stock in the enterprise for their remuneration. That part of the road west of the line of the Stockton and Tulare Railroad survey, would be wholly obviated, should the Stockton and Tulare Railroad be built as now contemplated.

The plan of relying largely upon subscriptions of material and labor to be paid for in stock, as set forth in the *Independent*, is a good one. Capital of a kind which the sturdy sons of toil in the mountains possess in abundance, will thereby be converted directly into railroads, without intervening fat contracts to eat up a large portion of the same, and thus increase the cost of the road to those who are able and willing to subscribe money instead of labor. This is a new feature of associated labor, which we would rejoice to see carried into practice. A road such as here proposed would no doubt prove a highly remunerative investment,—and furnish a new source of lumber supply for this city, the want of which has been so greatly felt for the past two or three years.

INCREASE OF TRAVEL WITH RAILROADS.—But a short time prior to the construction of the railroad which connects Philadelphia with Pittsburg, three stages a week furnished sufficient accommodation for all the travel between those two important cities; but as soon as the railroad was completed, the cars were crowded with passengers. Railroad facilities, above all others, are best calculated to develop the resources of a country and fill it up with a thriving population.

RAILROAD BRIDGE AT PETALUMA.—The work of bridging Petaluma Creek, for the railroad, according to the *Argus*, was to have been commenced on Monday last. The location of the depot is just now a matter of considerable interest.

THE WESTERN PACIFIC.—Work on this road in the neighborhood of Stockton, and at the tunnel is progressing as rapidly as the nature of the ground and the limited amount of labor now attainable will admit.

IMMIGRATION.—It is said that the emigrating population of Ireland is about exhausted, while that of Germany promises to be an ever overflowing population. Last year 140,000 German emigrants arrived in New York against only 48,000 Irish. Emigration from the former country will doubtless increase annually for many years, while that from the latter will as steadily decline.

CALIFORNIA LAND CASES.—Sixty-nine California land cases have been adjudicated in the Supreme Court—thirty-six have been rejected and thirty-three confirmed.

Mining Items.

GLOBE GOLD AND SILVER MINING CO.—From Mr. Winchester's (the President's) advertisement in the New York *Tribune*, we observe that this property, situated on Monitor Creek, in Alpino County, a mile east of the main Carson, and consisting of 2,000 feet on the Hercules lode, besides 600 feet on the Abe Lincoln lode, is being opened by a tunnel which is now in 150 feet, and which has cut several smaller veins of value; having 150 feet more to run. The Hercules, says Mr. Winchester, "is the Central or mother lode in a mineral belt, two miles wide, the richness of which in silver, gold and copper, has no parallel in California or Nevada, when the abundance of the ores is considered."

That gentleman furnishes occasional articles on mining to the *Tribune*. He regards White Pine as epidemic to a considerable degree, and furnishes many good points in favor of regular and legitimate mining.

THE GOLD MINES OF SCOTLAND.—The excitement with regard to the gold mines in Scotland, recently noticed in our columns, appears to be dying away. The mines don't pay as well as was anticipated, and the number of miners is steadily decreasing. A great many have not collected the value of $1.25 per week; although some of the more experienced, and perhaps more fortunate, have realized as high, sometimes, as $3 a day. Sluices, as well as rockers and other modes of washing the auriferous sands have been introduced.

REPORT OF THE COMMISSIONER OF MINING STATISTICS.—Fifteen thousand copies are to be printed. An appropriation has been made for the continuance of the work. The Commissioner will therefore again take the field during the ensuing summer.

NORTH CAROLINA furnished all the gold of the country for twenty years.

GRAMME.—The *American Journal of Mining* raises its voice against the cutting down the word *gramme* to *gram*, in accordance with the Websterian rage for abbreviation and simplification,—and urges, with force, that *gram* looks, in a careless manuscript, too much like *grain*.

GEO. E. ROGERS,
(Successor to G. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qr10pur

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OF SAN FRANCISCO, CAL.,
Office, No. 422 California street.
Cash Assets, Jan. 1, 1869, - - $1,520,740 18
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AND
INLAND
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ONE DOLLAR PER DOZEN.
And Photographs, Ambrotypes and Sun Pearls, by first class artists, at the lowest rates,
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☞Sole Agents for Barstow's Metallic Burial Cases and Caskets. 25v14tf

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BANK OF SAVINGS,
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Interest paid on Deposits. Money Loaned on Real Estate.
H. DUTTON, President.
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CARPENTER and BUILDER,
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Stores and Offices fitted up with neatness and dispatch.
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PURCHASER OF
COPPER ORES, BARS, MATT, Etc., Etc.,
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The highest market price paid for ores assaying 10 per cent. and upwards 23v17qr

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PATTERN AND MODEL MAKER,
No. 20 Fremont street, over Phœnix Iron Works, San Francisco.
Particular attention given to MODELS for the Patent Office Brands and Pattern Letters Cut. 4v18mtf

Farms and City Property.
C. H. WAKELEE & CO.,
601 California street, S. W. Corner Kearny street, buy and sell Farms and City Real Estate. Parties wishing to invest will find it to their interest to call on them. 13v18-3m

CALIFORNIA
Marine Metallic Paint.
This Composition, the result of scientific and chemical research, after having been thoroughly tested for the past twelve months, is now offered for sale by the "California Marine Paint Co." incorporated March 25, 1869. The experiments to which it has been submitted, have proved that it is one of the most valuable discoveries of this wonderful age of invention. It has been extensively used in painting the bottoms of all kinds of sailing vessels, wood, iron and copper, and with invariable success. Wooden bottoms, piles, etc., are thoroughly protected from the destruction of the *toredo navalis*, or sea worm; and iron vessels effectually preserved from the adhesion of barnacles, grass and all descriptions of zoophytes, no injury whatever resulting to the plates, as frequently occurs from the use of copper, and other pernicious paints; but, on the contrary, its known properties will preserve them.
By the use of this Paint, copper ing vessels is rendered unnecessary; but where a vessel has been coppered it will not only keep it from fouling, but preserve the copper from the ordinary wear and tear, amounting to 10 per cent. per annum, and render it almost indestructible.
It is also invaluable for the preservation of all wooden structures, especially railroad timbers, bridges, floor beams in houses, telegraph posts, and is a certain preventive against the action of the white ant and cochineal of Mexico, China, and India.
The company are now prepared to supply all orders, and enter into contracts for the application of this Paint.
Orders and communications in regard to terms, addressed to Capt. R. H. Waterman, President; James Pollock, Superintendent Dry Dock; or L. L. Bullock, Tide Land Commissioner, will receive prompt attention.
R. H. WATERMAN, President of Company.
LLOYD TEVIS, JAMES POLLOCK, L. L. BULLOCK, SCOTT TIDBALL, THOS. A. TALBERT, JOHN S. ROLLS, } Trustees.
San Francisco, March 29, 1869. Secretary.
15v18-1m

MECHANICAL AND ARCHITECTURAL
Drawing School
—FOR—
APPRENTICES.
MR. FREDERICK HELLERT,
An experienced Draughtsman and Teacher, has opened an Evening School at No. 414 CLAY STREET (same entrance as the Mining and Scientific Press Office), where he is giving thorough instructions in DRAWING to apprentices who are inclined to self-improvement. His terms are moderate and within reach of the humblest apprentice; and we are pleased to say that the enterprise is meeting with success.
1v18tf

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our Industrial resources, should have its name on its subscription books. *Nevada Gazette.*

A GOOD INVESTMENT.
THE MOUNT MORIAH
Silver Mining Company,
OF ARGYLE MOUNTAIN,
White Pine District,
NEVADA.
Capital. - - - $300,000.
6,000 Shares, $50 Each.
FULL PAID AND NOT LIABLE TO ASSESSMENT.
President.....A. DE LAND
Secretary.....LOUIS COHN
Superintendent at Mines.....CHAS. E. HARRIS
TRUSTEES:
A. DE LAND, CARL FRECHT, THOMAS ANSBRO, LOUIS COHN, W. S TAYLOR.
This Company offer to the public One Thousand Shares of the Capital Stock for a Working Capital, at the subscription price of Five Dollars per share—FULL PAID, and NEVER liable to any assessment whatever. The mine is admirably located for working, being situate on Argyle Hill, opposite Treasure City. Shaft sunk 10 feet, showing a large body of chloride, which assays $700 per ton, and which will now mill $200. The capital raised to be used and expended on the mine. The standing and reputation of the Trustees is ample guaranty of responsibility, etc. Maps and samples of ore, and subscriptions at the office of the Company, Rooms No. 15 Stevenson House, corner California and Montgomery, and at 211 and 213 California street, near Battery street. 16v18tf

ILLINOIS
SILVER MINING COMPANY
White Pine District.
Trustees:
JAS. H. CUTTER, E. H. SHAW, B. H. FREEMAN, JAS. R. CARNISS, DAVID BUSH.
The Company's Mine adjoins the celebrated "Silver Glance," and is in close proximity to the "Argyle," and other prominent mines of the District.
From developments already made, the Trustees feel justified in saying to their friends that this is one of the best opportunities ever offered for investment in this State.
For the purpose of further developing the mine, the Company has set aside a limited amount of stock, to be sold as a working capital, of which they now offer 1000 shares, at the nominal price of $2 50 per share, unassessable—the entire proceeds of which will be devoted to developing the mine.
The books of the Company are now open for subscription at the office of the Company, No. 432 Montgomery street, Room No. 1, first floor. By order,
JAS. H. CUTTER, President.
O. W. STEWART, Secretary.
15v18-4m

ONE THOUSAND SHARES
—OF THE—
UNASSESSABLE STOCK
—OF THE—
Nantucket Mining Company
Are offered for sale at ONE DOLLAR PER SHARE, for the purpose of raising a fund to aid in the development of the mine. The mine is located on TREASURE HILL, about half a mile west of Treasure City, adjoining the "Salt Point on the east. No other issue of this stock will be offered at less than $2.50 per share, the object being to raise a small fund for the immediate prosecution of the work. The Trustees, in offering this stock, confidently believe it to be ONE OF THE BEST INVESTMENTS in the market. Subscription Books now open at the office of the Company, No. 619 Montgomery street. By order of the Board of Trustees.
W. H. BROWN, President.
15v18 1m H. B. CONGDON, Secretary.

International Hotel,
JACKSON STREET
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.
THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.
Prices varying from $1 50 to $2 per day for Board and Room.
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.
☞Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYOANT, Proprietor.

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72 Front street.....Portland, Oregon.
Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

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POWDER COMPANY
Is now prepared to fill all orders for
GIANT POWDER,
Put up in Boxes, either in Bulk or in Car tridges.
General Agents,
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CARLOS O'DONNELL'S
California Cordial Tonic,
—OR—
Wild Cherry Bitters.
TRADE C. O. D. MARK.
This elegant preparation is acknowledged by all who have used it to be the most efficient remedy for every disease of the
STOMACH AND BOWELS,
Yet introduced to the notice of the public. Immediately on taking a dose of it, the patient will find a genial glow pervading his entire system, and its steady use for a short time will be followed by a healthy appetite and a good digestion, even in the case of the most confirmed dyspeptic.
To all who are suffering from
INDIGESTION,
DYSPEPSIA,
DYSENTERY,
DIARRHŒA,
NERVOUS AFFECTIONS,
Or any of the manifold troubles caused by a diseased action of the stomach, this remedy is confidently recommended as a safe and certain cure.
N. B. JACOBS & CO., Sole Agents,
15v18-3m 423 Front street, San Francisco.

OCCIDENTAL
Insurance Company,
OF SAN FRANCISCO.
Cash Capital, - - - - - - $300,000
GOLD COIN.
Office S. W. corner of Montgomery and California streets.
Fire and Marine Insurance.
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Agricultural.

The Philosophy of Hay Making.

Among many farmers there is considerable inquiry as to the proper time to cut grass for hay; while others appear to think that the convenience of the proprietor or the supply of help is of more importance, than the difference in the nutritive condition of the crop, within a range of a few days or even weeks. Acting upon the old proverb that "the proof of the pudding is in the eating," quite a number of intelligent farmers have, from time to time, made careful camparative experiments as to the result of feeding early and late cut hay; and it has thereby been proven that the value of a ton of hay, cut while green and succulent, and cured in the right manner, contains from 15 to 20 per cent. more nutritive value than that which has been cut after the seed has become fully developed.

Farmers have not, however, been altogether satisfied with mere *experiments* in this direction; but many of the more inquiring and progressive among them have called in the aid of the chemist and scientist to learn why these things are so. A very slight examination into the philosophy of the production of grasses, shows that all annual plants reach their largest growth when in full bloom. No additional fibre or nutritive quality is added to their bulk after that time; the putting forth of the bloom is the last stage of growth. The strength and vitality of the plant is at this time equally distributed through all its parts, and its entire after effort is expended in ripening the seed. In accomplishing this, it simply exhausts itself, and nothing is extracted from either soil or atmosphere. The strength and vitality of the plant gradually leaves its other members, until it has nearly all centered in the seed. In corn, wheat, harley, etc., which are raised exclusively for their seed, this is the end desired; but grasses, or even grains, when the design is to feed in the straw, should be cut at the precise time when the nutritious matters of the plant are most universally diffused throughout its entire bulk; which, as we have shown, is just at the point of full bloom, and before the seed begins to form.

The common practice in cutting grass is to wait for the formation, but not fully ripening of the seed; partly for the reasou that at that time the grass is more readily cured, and partly under the supposition that while nutriment is added to the seed, none is lost from the other portions of the plant. The error of such a course is apparent from what has already beeu written.

The chemist farther tells us that all grasses contain a notablo quantity of sugar in their stalks and leaves when in bloom. If the plaut is cut before it comes into bloom the sugar has not been formed; if it is cut after the sced has set, the sugar is not there at all—it has been converted into woody matter which contains no nutriment—but merely aids digestion by means of its bulk.

In *curing* hay there are also many things to be considered, and the farmer owes much again to the chemist for the interesting and valuable information he has obtained through him, with regard to the chemical changes incident to the plant during that process. Most farmers make the same mistake with hay making that they do in the handling of manure—they turn it over and over too much to the weather, thereby unnecessarily losing much of the most valuable properties of both.

Don't dry your hay too much; good grass may he dried until it becomes as worthless as straw. Hay should be simply *wilted* in in the sun and dried in the winrow. When we gather an herb and desire to retain its full strength we dry it as quickly as possible, and in the shade. Such is the philosophy of haymaking—dry as quickly as possible, with as much stirring as you can give it, and for the shade, substitute as soon as thoroughly wilted, the winrow and the cock. Any unnecessary delay of "raking up," even for a single hour, in a very hot day, may make a difference of fully fifteen per cent. in the value of your hay. The water only should be evaporated. When that is gone, the aroma and nutritious properties of the grass will speedily follow if further exposure is suffered. The olfactory nerves will promptly give notice when that process commences, and no time should he lost in "raking up," after the aroma is observed to be passing away. If the weather is hot, and the ground dry, the grass will he ready for the rake in two hours after it is down—even when the weather is cold and the ground wet, not more than half a day should he allowed for wilting and drying broad-cast. Hay should he placed in the stack or harn as soon as possible after it is made—not an hour's unnecessary delay should be permitted.

The chemist, to whom we must always look for the philosophy of such things, tells us that with the evaporation of the water the organic cells of the plant are broken up and active fermentation sets in, unless it is immediately placed under cover from the sun. When such fermentatiou takes place, the hay depreciates in quality, and is in a condition to heat when afterwards placed in the stack or barn. An undue fermentive change may he known by the rapid loss of color. As long as the green color is retained, the work is going on all right. Its loss, whether in the field or in the stack, shows that injurious fermentation has set in.

Heat, light and dry wind will take the chief part of the sugar and starch (its most important nutritious qualities) out of hay, in a very short time after it has lost sufficient water to become wilted. The subsequent exposure to even a very slight rain will render it almost worthless. When all the conditions of cutting and curing are properly complied with, the cured hay retains all the characteristics of green grass, without its injurious drawhack of excess of water. The dried and condensed juices remain iu the tender fibre, in just the condition to he most easily softened and digested.

The true philosophy of hay making, then, consists in cutting the grass at the precise time when the sugar and starch is most fully developed, and before those elements are converted into seed or woody fibre; and in curing the same to just the point previous to which excessive fermentation takes place, and when it is in just the condition to he put into the barn without danger of subsequent heating.

THE LATE RAINS of the present season have ensured good crops throughout the State. The total fall to the present time is 20.50 inches; the average fall for the past eighteen years is 20.79, hy Dr. Gibhons' record, although some records make it as high as 22 inches. The present season has been remarkable, however, for the evenness and timeliness of the rains—a most important consideration iu connection with utilizing the water, whether for farming or mining. No decidedly unfavorable reports have been received from any part of the State or adjoining regions, on this coast, although in a few circumscribed localities some slight damage has been done by the "lodging" of the wheat, during the late heavy rains.

Colusi County reports three times as much grain sown as on any previous year, and all looking admirably well. Much of this is on land that was considered almost worthless three years ago.

From the San Joaquin accounts are especially favorable. Between Stockton and Firebaugh's Ferry, nearly 100 miles, there is a strip 20 miles wide, but little of which has heen cultivated before, and now grain covers three-fourths of it. The dwellings are cheap, orchards and gardens few, fences are s arce and loose cattle entirely wanting. This year's crop, it is estimated, will pay for the land on many of the farms.

The Monterey *Democrat* reports the crops in that region in a most favorable condition, and likely to be earlier than last year by at least two weeks.

In Santa Barbara the main crop is corn and beans. Much more land has been planted there this year than ever before, not only in corn and heaus, hut in wheat, barley, and potatoes as well. That region is fast improving in building, fencing, planting orchards, and in agricultural progress generally. It is claimed that the almond will flourish better there than in any other part of the State. Messrs Clough & Olmstead are planting a large orchard of almonds. The olive, too, is receiving much atteutiou there, and it is thought its cultivation will he found very profitable. Many farmers are planting the English walnut. It is a somewhat remarkable fact, and one altogether inexcusable, that this county should derive almost its entire supply of flour from this city and Oregon. There is no flour mill in the conuty; one is greatly needed and would do a good husiness. There is no reason why that county should not raise all its own wheat, and some to spare. A few farmers are just beginning to grow whea'.

New Mining Advertisements.

Bowden Silver Mining Company. Location of works: White Pine, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of April, 1869, an assessment of fi e cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, 419 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty ninth day of May, 1869, shall be deemed delinquent, and will he duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sallo. By order of the Board of Trustees.

M. S. MARTIN, Secretary.

Office, No. 11 Hayward's Building, 419 California street, San Francisco. ap24

Capital Silver Mining Company, White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of April, 1869, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the seventeenth (17th) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. ap24

Troy Ledge Mining Company, White Pine District, Lander County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixteenth day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
O W Hodge	45	120	$18 00
G W Hodge	46	60	9 00
G W Hodge	47	60	9 00
C W Hodge	48	60	9 00
G W Hodge	50	60	9 00
G W Hodge	51	120	18 00
J C Harmon	59	10	1 50
J C Harmon	60	10	1 50
J C Harmon	61	10	1 50
J C Harmon	62	10	1 50
J C Harmon	63	10	1 50
J C Harmon	64	10	1 50
J C Harmon	65	10	1 50
J C Harmon	66	10	1 50
J C Harmon	67	10	1 50
J C Harmon	68	10	1 50
J C Harmon	69	10	1 50
J C Harmon	70	10	1 50
J C Harmon	71	10	1 50
J C Harmon	72	10	1 50
J C Harmon	73	10	1 50
J C Harmon	74	10	1 50
J C Harmon	75	10	1 50
J C Harmon	76	10	1 50
J C Harmon	77	60	9 00
J C Harmon	78	60	9 00
J C Harmon	79	60	9 00
J C Harmon	80	60	9 00
J C Harmon	81	60	9 00
J C Harmon	82	60	9 00
J C Harmon	83	100	15 00
J C Harmon	84	100	15 00
J C Harmon	85	100	15 00
J C Harmon	86	120	18 00
J C Harmon	87	120	18 00
W J Nichols	13	10	1 50
W J Nichols	14	10	1 50
W J Nicnols	15	10	1 50
W J Nichols	16	10	1 60
W J Nichols	17	10	1 50
W J Nichols	18	10	1 50
W J Nichols	19	10	1 50
W J Nichols	20	10	1 50
W J Nichols	21	20	3 00
W J Nichols	22	30	4 50
W J Nichols	24	60	9 00
W J Nichols	24	60	9 00
	(No Certificat)	1590	238 50
C W Stevens	balance 91	100	6 67
C W Stevens	balance 92	100	6 67
C W Stevens	balance 93	100	6 67
C W Stevens	balance 94	100	6 67
C W Stevens	balance 95	100	6 67
C W Stevens	balance 96	100	6 67
C W Stevens	balance 97	100	6 67
C W Stevens	balance 98	100	6 67
C W Stevens	balance 99	100	6 67
C W Stevens	balance 100	100	6 67
W J Mowrey	102	18	2 70
J G Mitchell	127	12	1 80
J G Mitchell	128	12	1 80
J G Mitchell	129	12	1 80
J G Mitchell	130	12	1 80
J G Mitchell	131	12	1 80
J G Mitchell	132	12	1 80
J G Mitchell	133	24	3 60
J G Mitchell	134	24	3 60
J G Mitchell	135	24	3 60
J G Mitchell	136	24	3 60
J G Mitchell	137	24	3 60
J G Mitchell	138	36	5 40
J G Mitchell	139	36	5 40
J G Mitchell	140	36	5 40
J G Mitchell	141	60	9 00

And in accordance with law, and an order of the Board of Trustees, made on the sixteenth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Monday, the twenty-fourth day of May, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. ap24

Mining Notices--Continued.

Cordillera Gold and Silver Mining Company.—Morelos District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of March, 1869, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twelfth (12th) day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold, on Monday, the tenth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary.

Office, 321 Washington street, San Francisco. mar31

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until the first day of May, 1869, and the sale thereof until Monday, the seventeenth day of May, 1869. By order of the Board of Trustees.

H. R. REED, Secretary.

ap24

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to the public to warrant publication.

Daniel Webster Mining Company.— Location of Works: White Pine County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of April, 1869, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the t nth day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of May, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

C. A UHRIG, Secretary.

Office, No 418 California street, San Francisco.

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth (6th) day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John Amos	58	1	$1 00
A Birrell	17	10	10 00
A C Tellman	16	62 11-13	62 84
A C Tellman, Trustee	51	11 6-13	11 46
A C Tellman	9	64 8-13	64 61

And in accordance with law, and an order of the Board of Trustees, made on the sixth (6th) day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on Monday, the twenty sixth day of April, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. ap10

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-third day of January, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Baum, Charles	12	20	$15 00
Baum, Charles	63	50	37 50
Borel, F A	79	200	150 00
Borel, F A	81	100	75 00
Borel, F A	83	50	37 50
Borel, F A	84	50	37 50
Borel, F A	122	207	155 25
Durning, Charles	65	100	75 00
Gordon, John	18	75	56 25
Gallagher, James	50	100	75 00
Hardy, Thomas	21	300	225 00
Lehunaui, Chr	24	5	3 75
Leavitt, John	25	250	187 50
Murdock, C A	105	100	75 00
Murdock, C A	106	150	112 50
Murdock, C A	120	39	29 25
Probst, Peter	137	3	2 25
Vanilervoort, J C	28	50	37 50
Wentzell, Justus	123	2	1 50
Wilson, E	96	50	37 50

And in accordance with law, and an order of the Board of Trustees, made on the twenty third day of January, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salesroom of Maurice Hore & Co., auctioneers, No. 327 Montgomery street, San Francisco, California, on the twenty-seventh day of April, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N VAN BRUNT, Secretary.

Office 426 Montgomery street, San Francisco. p

North American Wood Preserving Company.

Location of Works: San Francisco, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twelfth day of March, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. snares	Amount.
Geo W Dent	1	400	$400 00
Benj R Nickerson	29	20	20 00
Benj R Nickerson	34	20	20 00
Benj R Nickerson	31	5	5 00
Benj R Nickerson	32	5	5 00
John L Samuels	33	100	100 00
John L Samuels	36	50	50 00
John L Samuels	unissued	150	150 00
Henry S Dent	unissued	200	200 00

And in accordance with law, and an order of the Board of Trustees, made on the twelfth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on the first day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. B. LAKE, Secretary.

Office, 430 Montgomery street, San Francisco ap17

Pacific Coal Mining Company, Contra Costa County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of March, 1869, an assessment of four dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of April, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventeenth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. LACHMAN, Secretary.

Office, southeast corner Market and First streets, San Francisco. mar27

Siempre Viva Silver Mining Company, District of Zarigoasa, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of April, 1869, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOUSE, Secretary.

Office, 318 California street, San Francisco ap17

The Annual Meeting of Stockholders of the Daulel Webster Silver Mining Company, will be held on MONDAY EVENING, May 10th, at 7½ o'clock, at the office of the Company, No. 418 California street.

ap17-4w C. A UHRIG, Secretary.

The Annual Meeting of Stockholders of the Williamantic Silver Mining Company, will be held on TUESDAY EVENING, May 18th, at 7½ o'clock, at the office of the Company, No. 418 California street.

ap17-4w C. A. UHRIG, Secretary.

Mining Notices.

Senatar Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twenty eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco mar27

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. mar27

The Perfection of Prepared Cocoa.

MARAVILLA COCOA.

Sole Proprietors—TAYLOR BROTHERS, London.

The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skillful application of their suitable principle and elaborate machinery, produced what is so undeniably the perfection of Prepared Cocoa, that it has not only secured the preference of homœopaths and cocoa drinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.

"A SUCCESS UNPRECEDENTED."

[See following extract from the Globe of May 14, 1868.]

"Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adapting their perfect system of preparation to this finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.

Sold by packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.

6v18 1y

California Steam Navigation COMPANY.

Steamer CAPITAL..... .....CAPT. E. A. POOLE
" CHRYSOPOLIS.....CAPT. A. FOSTER.
" YOSEMITE .... — —
" CORNELIA.....CAPT. W. BROMLEY
" JULIA.....CAPT. E. CONCKLIN.

Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville Colusa, Chico, and Red Bluff.

Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE, President.

13v12

Maurice Dore & Co.,

AUCTIONEERS.

THURSDAY.

THURSDAY..... .....MAY 6, 1869,

At 12 o'clock, at Salesroom,

No. 327 MONTGOMERY STREET,

Special Credit Sale

—OF—

Montgomery Street Property,

By order of the Trustees of the Montgomery Street Real Estate Company.

We will sell on the above date

1,000 FEET FRONTAGE ON MONTGOMERY,

BETWEEM MARKET AND HOWARD STREETS,

Which will embrace 12 FINE CORNERS, as follows:

One on Montgomery and Market,
Three on Montgomery and Jessie,
Three on Montgomery and Mission,
One on Montgomery and Minna,
Four on Montgomery and Natoma, and
One on Montgomery and Howard Streets.

Montgomery street, between Market and Howard, is 70 feet in width, and will be sewered, paved with Stow pavement, curbed and sidewalked.

TERMS—One-fourth cash; one-fourth in one year; one-fourth in two years; one-fourth in three years—deferred payments to bear interest at the rate of ten per cent. per annum, payable monthly, and be secured by mortgage on the property.

Diagram Catalogues will be ready in a few days, and can be had on application at our office.

MAURICE DORE & CO., Auctioneers.

15v18 1m

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. RUFFINGTON,

Room 37, New Merchants' Exchange, California street San Francisco 17v15-tf

Pacific Protective Association of California.

INCORPORATED OCTOBER, 1868.

PROSPECTUS.

OBJECT.—The object of this Association is to secure a cash payment, within sixty days after the death of a subscriber, to his or her heirs or assigns, of as many dollars as there are individuals of the class to which said deceased subscriber belonged.

MANAGEMENT.—The subscription fees are Ten Dollars at joining, and One Dollar on the death of each subscriber. The One Dollar from each subscriber is paid to the heirs or assigns of the deceased.

THE FUNDS.—The By-Laws of the Association require that a portion of the money received as subscription fees shall be a Sinking Fund to meet assessments falling due by the delinquencies of subscribers. The balance of the money received to be used for the payment of the expenses incurred by the Association.

MEMBERS.—A subscriber failing to pay his or her assessment of one dollar within Thirty days from receipt of notice forfeits his or her Certificate, and all claims upon the Association, unless good cause is shown for further delay. A subscriber can forward money in advance which amount will be credited on future assessments. The subscribers are divided into classes including males and females. Each class is limited to 5,000 subscribers. As classes are filled, new ones will be formed. No person is to enter that he cannot pay Ten Dollars at joining and One Dollar occasionally, thus securing $5,000 to his or her heirs or assigns.

ADVANTAGES.—The advantages of this Association are, that no *money panic* can affect it. Its benefits are easily obtainable by all, and every subscriber added to the Association enhances the interest and protection of all; the amount paid being so small, and only at long intervals, that any person can secure for his family a competency upon his death.

CLASSES.—In Class A, all persons between the ages of 15 and 40 years; in Class B, all persons between the ages of 40 and 60 years.

Any one that has not stated his or her age correctly, will forfeit all money paid and his or her Certificate.

One class cannot be assessed if one of another class dies. Classes have no connection with each other.

HOW TO BECOME A MEMBER.—A person desirous of becoming a subscriber must fill out an application, and forward with it Ten Dollars by Check, Draft, or by Express, in gold or silver coin. Persons can pay agents, when regularly appointed and authorized to receive money. Each subscriber should interest himself in obtaining new members, by so doing all are benefited.

BOARD OF DIRECTORS.—Benjamin H. Freeman, George H. Russell, Samuel A. Raymond, James A. Pritchard, W. Le Roy.

OFFICERS.—Benjamin H Freeman, President; George H. Russell, Vice President; John H. Warren, Secretary; James A. Pritchard, Treasurer.

REFERENCES.—Hon. Henry Dutton, President of Farmers' and Mechanics' Bank; Hon. Samuel Cowles, late Judge County Court, San Francisco; Hon. A. L. Gunnison, Attorney at Law, San Francisco; H. J. Booth, Esq., Union Iron Works, San Francisco; Henry F. Williams, Esq., Real Estate, San Francisco; John G. Hanscom, Esq., Ætna Iron Works, San Francisco; John H. O'Brien, Esq., of O'Brien, Bush & Co., San Francisco; Hon. J. P. Jones, Gold Hill, Nevada.

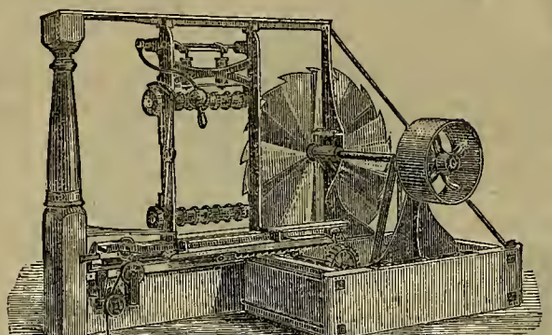
All communications should be addressed to the Secretary of the

PACIFIC PROTECTIVE ASSOCIATION,

S. E. COR. OF MONTGOMERY AND SACRAMENTO STREETS, (Over Donohoe & Kelly's Bank,) SAN FRANCISCO.

[10v18 3mos.]

HUNTINGTON'S IMPROVED SHINGLE MACHINES.



SHINGLE MACHINES CONSTANTLY ON HAND.

Steam Engines, Saw Mills, Lath and Picket Machinery, and Flax-Breaks,

MADE TO ORDER.

HUNTINGTON & BUSWELL, Manufacturers,

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Rails, Newel Posts,

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STAIR WORK,

To any part of the coast. Practical workmen sent, when desired, to put up the same.

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by simply sending a correct ground plan of stairs, together with hight of story.

Wood-Turning and Scroll Sawing of all kinds promptly executed.

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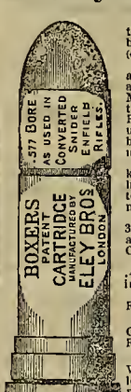

These Cartridges are made in three sizes, viz., .577 (or Snider Enfield) bore; .500 (or half-inch) bore; and .451 (or small) bore.

These Cartridges have been adopted, after careful comparative trials against all other descriptions, by HER MAJESTY'S WAR DEPARTMENT, as the Standard Rifle Ammunition for the BRITISH ARMY, and are not only used exclusively for the Snider Rifle, but are adapted to all other systems of military BREECH LOADING RIFLES.

They are the cheapest Cartridges known, carrying their own ignition, being made wholly of metal, are water-proof and imperishable in any climate.

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Double Water-Proof and E. B. Caps. Wire Cartridges for killing game at long distances. Pell Waddings to improve the shooting of guns; and every description of Sporting and Military Ammunition.

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VARNEY'S PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ores are reduced to an impalpable powder, and the metal amalgamated.

Setlers are de on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

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India Rubber Cement and Paint
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AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

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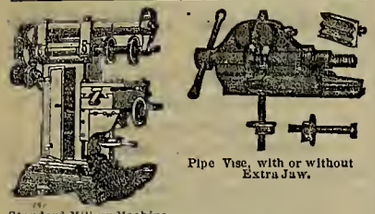

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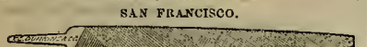

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21v17-qy **J. WRICHHART, Proprietor.**

PATENT
Boiler Scraper and Tube-Cleaner.

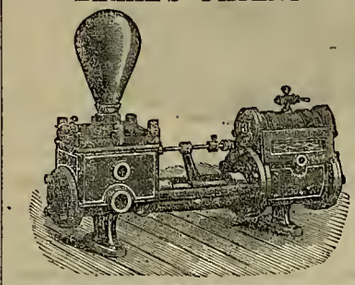
IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

BLAKE'S PATENT



STEAM PUMP!

This Pump is warranted superior to any in the market, for Breweries, Sugar Houses, Tanneries, Boiler-Feeders, Steamboats, Mining and Fire Purposes, etc. It throws a full stream of the thickest beer mash without clogging, and sugar syrup boiling hot without difficulty.

Warranted a positive Pump under ALL circumstances; it never stops nor gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

☞ If one fails to do the work for which it is sold, it may be returned and the money will be refunded. May be seen in operation at Risdon's, or Union Iron Works, or at

W. O. M. BERRY & CO'S,
Agents for Pacific States,
8v18 3m 114 California street, San Francisco.

Avery Pump and Tube Well.
Complete for Use.

The TUBE WELL is formed by driving prepared iron piping into the ground with a sledge. Although of comparatively recent invention, these wells have won a world-wide reputation, and are proven to be superior to the ordinary dug well, costing sometimes less than one-fourth that of others, and at the same time excluding the surface water and dirt. The tubing is coupled together in lengths of about six feet, as they are being driven into the earth; the valves are then dropped in and the Pump screwed down on top.

FORCE AND LIFT PUMPS

Always on hand For ease of Working, durability and force, the Avery Pump has no superior. For circulars, etc., address Postoffice box 17.

UHRIG & DEWEY,
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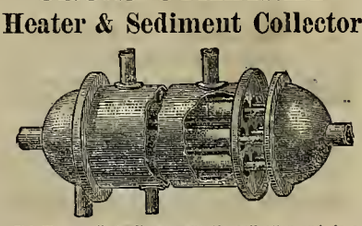
CROSS' COMBINED
Heater & Sediment Collector



This Heater effectually prevents the collection and deposition of sediment in the boiler from impure water. From April 1, 1869, the Royalty on this Heater has been

REDUCED 45 PER CENT.,

Which enables the Vulcan Iron Works, McAfee, Spiers & Co., of San Francisco, Keep & Bargion, of Stockton, and Williams & Co., of Sacramento, the parties having the right to build them, to furnish these Heaters at greatly reduced rates. Send for Circulars to WM. B. CROSS,
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Brass and Steel Stamps and Oles, **608** Sacramento street, San Francisco. Orders by express promptly attended to.
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Horace Greeley's Autobiography, and other new and popular works. Send for descriptive circulars.

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JOHN W. QUICK, Manufacturer,
Removed to A. Pritzel's Iron Works, 218 Fremont street, near Howard, San Francisco.

Screen Punching in all its branches, at rates reduced from 25 to 40 per cent. less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.

N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

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ACIDS AND CHEMICALS OF ALL KINDS.

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"IMPROVED SPRING-BED BOTTOM."
(Patented July 21st, 1868.

The undersigned, having purchased the Patentee's interest in the States and Territories of the Pacific Coast, is now prepared to supply Private Houses, Hotels and Steamers with this comfortable, economical and durable "IMPROVED SPRING BED BOTTOM."

Persons going to White Pine will greatly promote their comfort by taking one of these Patent Bottoms, which is secured to a folding Bedstead, the cost of which is less than that of the materials at White Pine.

Wareroom, No. 1002 Market Street,
P. HUDSON, Proprietor.
☞ Call and examine. Open until 8 o'clock P. M.
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Engineering.

Submarine Engineering and its Modern Practical Adaptation.

The New York Society of Practical Engineering held its regular meeting on Tuesday evening, March 16th, the President, James A. Whitney, in the chair, the subject for discussion being "Submarine Engineering and its Modern Practical Adaptations."

The regular paper of the evening read on this subject was by Wm. Robinson, A. M., Professor of Sciences, Spring Valley, N. Y. The paper opened by calling attention to the importance of the subject as shown in a variety of operations in which submarine skill is requisite, such, for instance, as in establishing submarine defences in time of war, and in time of peace in removing obstructions from channels and harbors, in laying the foundations of piers and sea walls, and in the recovery of rich treasures and valuable property lost in sunken vessels. Before the introduction of diving bells, submarine operations were very limited in extent and were carried on by means of professional divers who could remain under water only while they held their breath. Aristotle makes some allusion to a "kettle" used by divers, but the earliest authentic account of the use of the diving bell in Europe, refers it to 1538. In this year two Greeks descended under water carrying a burning light with them, at Toledo, in Spain, in the presence of Charles V and several thousand spectators, and came up perfectly dry. For a long time diving bells could be used only at very limited depths. A column of water thirty-three feet high is equal to the presence of one atmosphere, consequently at this depth the bell was half full of water, and at greater depths the pressure of water was still greater, consequently the bell was entirely unsuited to deep water diving. The diving bell was of comparatively little practical value until a means was devised for replenishing it with fresh air, both for the respiration of the divers, and as a means of keeping the water out of the bell. The first noteworthy plan for accomplishing this result, was devised by Dr. Halley, in 1715. His method was to sink barrels freighted with fresh air to the bell. Nevertheless, practical operations were performed with the diving bell as early as 1642, and in 1687 an American named Wm. Phipps succeeded in recovering from a Spanish wreck sunk on the Bahamas the sum of $1,500,000. Of this he received $80,000 for his own share; he also received the honor of knighthood from Charles II. In 1776, Mr. Spalding, of Ediubnrgh, made an improvement on Dr. Halley's bell. This improvement consisted in placing the control of the bell, the power to move up and down, and laterally, in the hands of the divers themselve, instead of with the operation above. The next marked improvement was the introduction of the condensing air pump for the purpose of forcing air into the bell for respiratiod. The air pump was used in 1779 by Mr. Smeaton. It is also generally conceded that he was the first to apply the diving bell to regular engineering purposes; he used one made of wood in 1779, in repairing the foundation of bridges over Tyne at Hexham, in Northumberland. He used a metal diving bell also in 1788, in raising large stones from the water, and building a submarine sea wall in Ramsgate harbor. Sir John Reussie improved the diving bell for engineering purposes, and the distinguished engineer Brunel used a bell in the construction of the Thames tunnel. He also developed the fact that a person can live much longer with a given supply of condensed air than of air non-compressed. The writer then noticed the various improvements of later times. Among these was noticed the "Nautilus," pateuted by Major Sears. This apparatus is fitted with chambers to contain condensed air and water ballast for the purpose of controlling and regulatiug the various movements of

the bell by changing its gravity. Prof. Maillet proposed a plan which has been very successfully used in repairing submarine foundations in the waters adjacent to New York. The apparatus now at work on the wreck of the frigate Hussar, sunk in revolutionary times near Hell Gate with £900,000 sterling, in George III guineas on board, is claimed to be an improvement on all bells preceding it. It is called the "Submarine Explorer," and is the invention of Wm. Montstorms. It is claimed that it withstands the force of the strong current running over the wreck most of the time. Another apparatus invented by a civil engineer of this city, was described in closing. The inventor calls it a "Combination Diving Bell and Boat." Near the bottom of the apparatus is a ballast chamber for holding both water and solid ballast. It has also a "working compression chamber" and a "safety compression chamber," both containing condensed air. The boat is sunk or raised by admitting water into or expelling it from the water-tight compartment. The solid ballast is thrown overboard in case of emergency; the water is expelled by letting in the compressed air of the working compression chamber upon the water in the ballast chamber. There is also a tubular projection from the bottom of the boat designed to be sunk into the bottom of the river by excavating from within. When it is designed to excavate deeper than the length of this air-tube, a movable pneumatic tube is used, into which a man enters from the top and proceeds with the work of excavation. As he proceeds the tube is gradually sunk down by pulleys and ropes from the outside. The water is forced out by air from a tube which also supplies air for respiration.

LEVEEING THE INTERIOR TOWNS.—Marysville and Stockton have been compelled to follow the example of Sacramento, in leveeing themselves thoroughly against the inroads of the mountain floods. The Marysville levee was completed a few months ago, and Stockton, we observe by the *Independent* of the 8th inst., is now employing Captain C. M. Weber in surveying and superintending the construction of a levee along the eastern side of the city. There are twenty-five teams and a large gang of men removing earth from Mormon Slough and enlarging the channel. For a distance of seven or eight blocks along East street, (five blocks east from the railroad line), the contractors have plows at work, and have commenced hauling earth to the grade. The object is to enlarge the canal on the east side of East street, deepen the channel of the same, and thereby more effectually guide the water to Mormon Slough and prevent it from flowing into the city. The small canal constructed by Captain Weber along North street, extending from near East street almost to Rough and Ready, is being enlarged almost to the capacity of the channel of the Calaveras River. With that large canal extending east and west along the northern boundary line of the city environs, the means provided to guide water along East street, and the enlargement of Mormon channel, together with the high and solid bulkhead which will be formed by the grade of the Western Pacific Railroad, all who reside on the west side of the railroad may, says the *Independent*, feel certain of exemption from inundation by overflows at any time from the plains.

HELL GATE BLASTING.—The 5-ton drill used for this work is moved by steam from the boiler of the tug anchored in the rapids. This steam is prevented from being condensed in its passage, by being conveyed in a hose placed within a larger one through which the exhaust steam escapes. The inner one is therefore constantly surrounded with a coating or jacket of steam.

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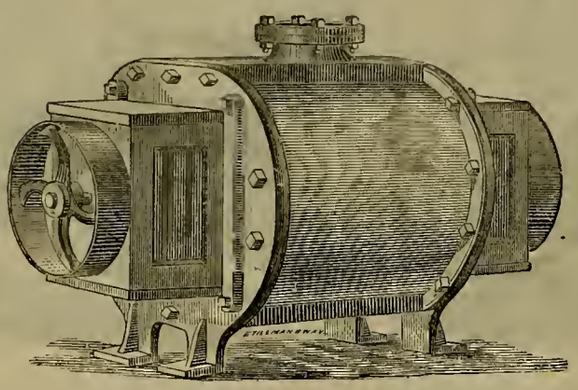
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 21, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



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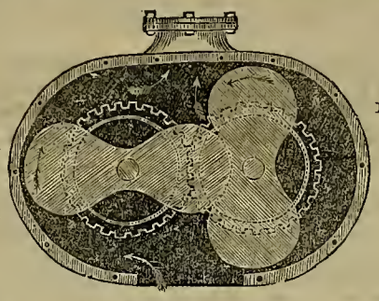

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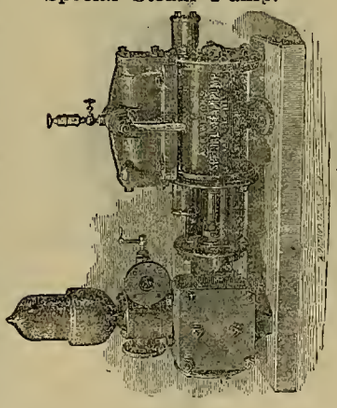

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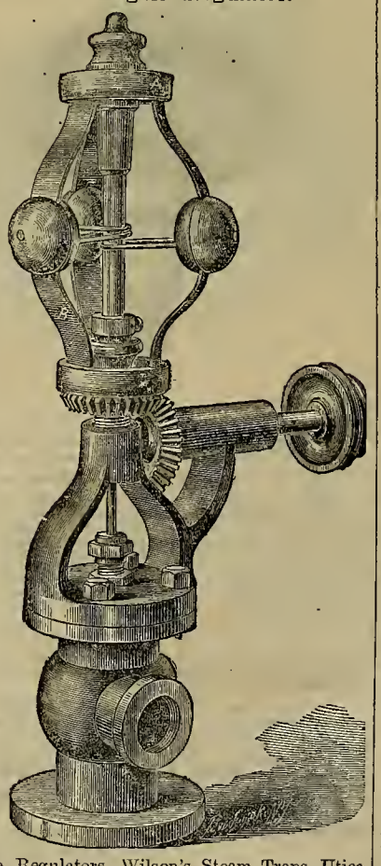

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OBITUARY.—Rivot, the well known metallurgist and professor of mineral analysis at the *Ecole des Mines*, Paris, who was to have come to California in May, died on the 18th of March, in the 48th year of his age. His works on metallurgy and mineral analysis are admired for their clear method, and graphic style in the description of manipulations, and are standards with Percy, Kerl, and Bischoff.

By a British Columbia telegram we learn that the naturalist James Hepburn died at Victoria on the 15th of April.

Sir Edward Cunard, the projector of the Steamship line which bears his name, died in New York on the 7th inst.

A SILVER BRICK, valued at $1,550, from the Autumn mine, one of the claims of the White Pine Mill and Mining Company, has been exposed in the window of Reichling & Co., 334 Montgomery street, for the past few days.

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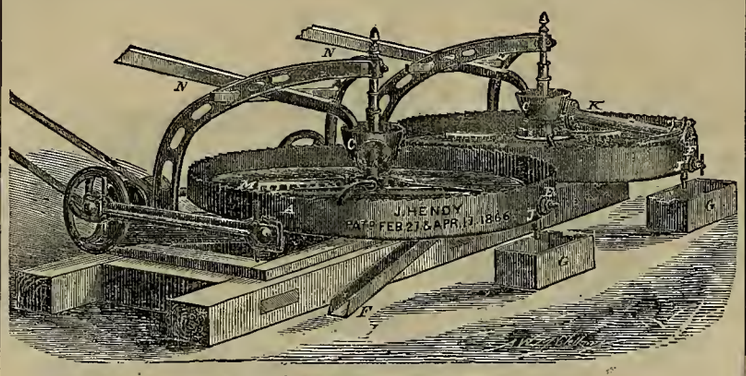

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Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.
Office at Union Iron Works.

13v17tf

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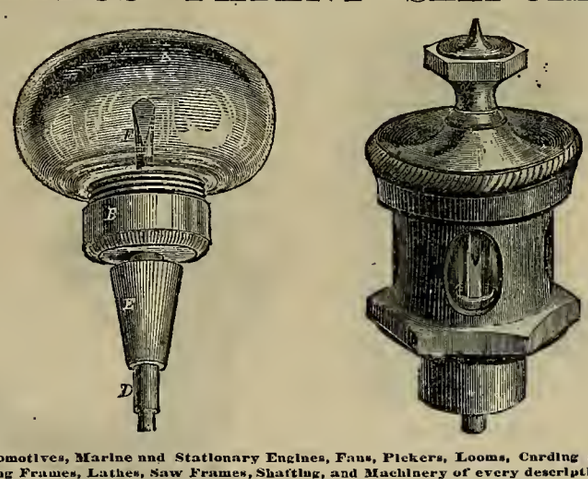

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REFERENCES:

For the convenience of persons desiring references, we annex the names of a few Manufacturers and Railroad Companies, who are using the Dreyfus Patent Oiler in different parts of the country: San Francisco—Mission Woolen Mills; Pioneer Woolen Mills; Pacific Woolen Mills; Golden State Foundry; Ætna Foundry; Fulton Foundry; Empire Steam Mills; San Francisco Gas Co.; Mechanics' Mills; Bacon & Co, Printers; Bosqui & Co., Printers; B. F. Sterrett, Printer. Sacramento—Union Iron Works. Stockton—Globe Iron Works.

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The Steamship GREAT REPUBLIC, Capt. J. M. Cavarly, will be dispatched for HONGKONG on MONDAY, April 5th, 1869, at noon, connecting at YOKOHAMA with the steamer NEW YORK, for SHANGHAI.

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SAN FRANCISCO, SATURDAY, MAY 1, 1869.

VOLUME XVIII. Number 18.

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MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Colorado, Idaho, Montana, Nevada and Wyoming.
Notices to Correspondents.
Stock Prices—Bid and Asked.
New Incorporations.
New Patents and Inventions.

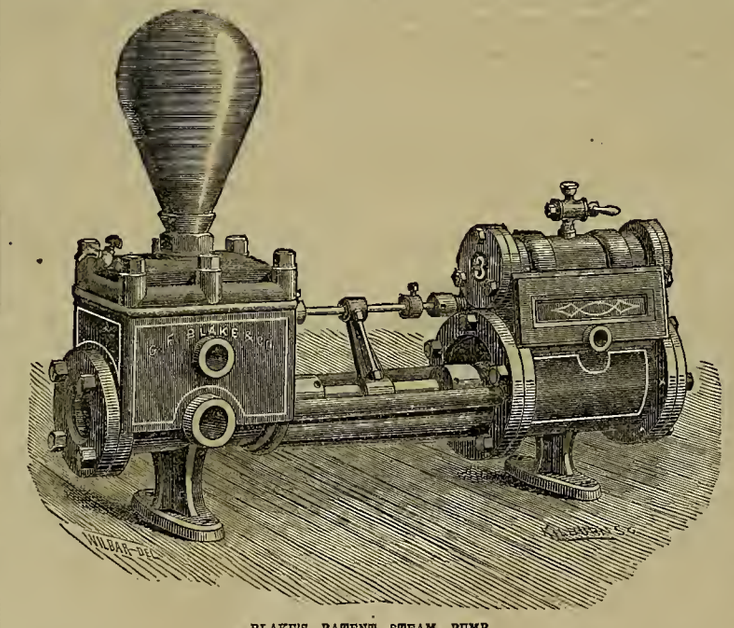
The Money Crisis.

Tho money crisis throngb whicb we are now passing, in this State, is an evidence of our prosperity, rather than otherwise. We are sending away gold and silver by the wholesale, not so mncb to pay debts, as to meet the commercial wants of New York. It is well known that tbe money scarcity here was preceded by a similar lack in that city, brought ahont by gold gamblers in Wall street, or from some otber canse. In tbe emergency then, San Francisco was looked to as one of the principal sources of relief, and the most urgent calls, coupled sometimes with entreaties, wore made npon our merchants and capitalists to forward money to meet the commercial engagements of friends and correspondents at the East. In answer to these calls, remittances were in many cases duplicated, and in some triplicated. These calls came at a time when our people had just entered upon important improvements, such as the extension of Montgomery street, tbe completion of Kearny, the construction of numerons local railroads, the development of a large number of newly-discovered mines in White Pine and the general call for money by the tbousands who are rushing thither, which unusual demands were rapidly absorbing all tbe spare funds tbat our merchants and capitalists held to their credit. As a necessary result, money became scarce, aod tbe gold and silver refinerics and the mint have been taxed to their utmost to supply the deficit. Our resonrces, however, have proven amply sufficient to tide us over the tronble, and are rapidly hearing us once more into smooth water. The depreciation in the value of hreadstuffs, and the mistaken "hold-on" poliey of our grain growers, has also materially aided te bring ahout this condition of things. Had our farmers been wise and continued shipments last summer, steadily, aud realized the better prices then ruling, fully three million dollars additional would have stood to our credit towards meeting this emergency. Instead of that, nearly one million dollars were lost to tho State, by the depreciation, helow the prices of ono year ago, on the sales of wheat and flour for the months of January, February and March. Farmers would do well to bear in mind that San Franeisco is the most expensive city in the world in which to hold their crops—for tbe reason that interest is doubled and storage trebled here.

Blakes's Patent Steam Pump.

The steam pump, which is an independent pump, (or steam engine and pump combined) is comparatively a new invention. It has, however, gained much favor with mechanics, aod now seems to be coming into general use as a "heiler feeder" wherever large engines are empleyed.

The pump, of which the accompanying engraving is a good representation, is the invention of Mr. Georgo F. Blake, of Boston. A poor descriptioo only can he given of it without a diagram of its interior mechanism. The water cylinder is shown in the left hand side of the cut, underneath the air chamher. This cylinder may be made either of brass or cast iron. But



BLAKE'S PATENT STEAM PUMP.

brass valves and seats, or hard rubber valves sbould be used. The water is taken in at the lower aperture, and there are openiugs on hoth sides, for convenience of suction and diseharge pipes. It is a doublo-action pump, having double water valves which are very simple. The water is drawn in and forced out from hoth sidcs of the piston head, which, with the strong and ample copper air-chamber directly over the valves, keeps up a constant and large flow, wben the pump is in operatiou. The steam cylioder in ordinary sizes is about donhle the size of the water cylinder. The small cylioder, directly over the steam cyliuder, contains the steam valve, which is operated entirely by steam, having au auxiliary valve, which is opened by the arm shown on the piston rod, with each stroke, just sufficient to allow the steam to work the main valve quickly. This main valve is cylindrieal, and hy a patent device of Mr. Blake's, is claimed to be perfectly balanced, therehy overcomiog all frictioo or pressure of steam, and allowing it to slide with the greatest facility, as the steam is admitted at either ond of the valve cylinder. The construction of the valve and auxiliary valve is such that it is impossible for the piston to stop "on the ceoter," which was a geueral fanlt with steam pumps prior to adopting the plan of driving the valve itself by steam.

This pump took the first prize at tbe Maryland Institute, io 1868; the geld medal of the Middlesex Mechanic Association, of Massachusetts, the same year, and the gold medal of tho Massachusetts Charitable Mechanics' Association; the New Hampshire Mechanics' Association, and the Iowa State Fair, in 1867.

The inventor claims for it "that it is positive under any pressure; may be run as slow or fast as may ho desired; will discharge more water than others of same dimensions; that the steam part beiog cast in one entire piece, ohviates tho trouble of leaky joints; that the steam valve is as perfectly balanced as the nature of such a device will admit of; that it will start at any point of the stroke and discharge all the water of condensation.

These pumps are now very generally employed at the East, as boiler feeders, and in sugar honses, breweries, taoneries, steamboats, etc., and for mining and fire purposes. They are made by George F. Blake & Co., of Boston; twelve different sizes being now in the market, adapted to classes of work varying from a diseharge of 20 to 3,000 gallons per minute. They may he seen at W. O. M. Berry & Co's, 114 Californiа street, San Fraociseo, the manufacturer's agents, and who will doubtless be pleased to give any further iuformation in regard to them.

STATE TEACHERS' INSTITUTE.—Tho State Teachers' Iostitute will convene in San Francisco, on Tuesday, May 4th, at Lincoln Hall. It is expected that there will be a general attendance of Teachers from all parts of tl e State.

The Stone Age in California.

Mr. C. D. Voy's notes of the localities in this State where human relics of the "Stone Age" have heen found, are all on the authority of personal visits to the places named; that gentleman being a mest indefatigable collector, and in possession of many fossils that the State Geelogical Survey has not had the opportunity to describe. The fossils fouod in the auriferous gravel channels under lava flows and volcanic cement ridges, have been, so far as discovered, all of extinct species, except tho stone relics and bones of the human raco. Prof. Whitoey accordiogly draws a distinct lioe, placing all formations containing these animals that lived prior to tho opoch of volcanic activity into tho pliocene tertiary age, and all those containing some of the species that still exist, into the post-tertiary.

The aocient gravel rivers, however, contioued forming after the volcanic epoch; so that the fossils contained io the preceding schednle are evidently not all of the same age. These of the older formation are a rhinoceros, a kind of hippopotamus, an extinct horse, and a camel; while the mastodon aud elephant, tapir, buffalo and horse are certainly younger, marking what is called the post-tertiary, or post-plioceoo, tho latter term beiug used by Lyell to designate the time interveniog between the calaclysms that terminated the pliocene, and the appearaoce of man, or the receot age.

It will he seen that California lays claim—provided that Whitney's parallelisms are correct—to a much more ancient existence of the human race than even the geologists previously dreamed of. The older pliocene fossils mentioned are referred to the same age as the White and Niobrara river tertiary, heyond tho Rocky Mountains; high up on their eastern slopes, whose rocks are witnesses to our eyes to-day of an elevating force in that region of over 1,000 feet.

THE OVERLAND MONTHLY is becoming a fixture, anda necessity to all who read, and whose mental vision embraces the Pacific borizon. Tbe May number embraces many readahle, and a few valuahlo articles. "Mining Excitements in California," "How We Live in Nevada," and "Tho Building of the Iron Road," constitute excellent matter, though of the lighter sort. "The Last of tbe Leather Stockings," and "Siletz, or, Lo Reconstructed," present good oecidental Indian pictures that will recall pleasant recollections with many. "A Hawaiian Feast," and "A Pony Ride in Kamschatka," with a few poems, stories, etc., make up tho remainder of the table of contents.

THE "OLD OAKEN BUCKET" literary, published by Cowan & Protzman, Indianapolis, Indiana, at $2 a year, is a well-gotteo-up magazine of fifty-four pages, in wbich tho temperance cause is popularized, by making the dissemination of its priociples secondary to good home entertainment and instruction.

Communications.

[Written for the Mining and Scientific Press.]

Relics of the Stone Age, found in California.

BY C. D. VOY.

Few countries equal California in the number of fossil remains disclosed of the elephant, the rhinoceros, the mammoth, and the mastodon, besides numerous other animals of the Pliocene age, accompanied with the bones and skulls of the ancient human inhabitants who peopled this country thousands of years ago. These remains embracing a variety of stone relics, have been, within the past few years, and are now being exhumed in the mining districts, with their cotemporaries of the animal creation, by the miner in his search for golden treasure; so that science is being greatly enriched by the development of a geological history of the human race, at the same time that the miner is being rewarded by the harvest of his labors. I present you with the following list of localities in which, to my knowledge, these fosils have been found:

HUMBOLDT COUNTY.

In the vicinity of Humboldt Point, there have been found numerous bones and teeth of the mastodon and elephant, in a sedimentary deposit, consisting of sand and gravel, from 20 to 30 feet deep.

About southeast of this, at a locality known as Ferndale, there have been found some mastodon teeth, imbedded in bluish clay, from 10 to 12 feet deep. Not far from here there have been found numerous stone mortars and pestles, made of porphyritic granite, and numerous singular relics of unknown use, but unmistakably the work of human hands, proving that a race of human beings inhabited the country coëxistent with the huge monsters named.

Crossing over quite a range of mountains about in a northeasterly direction, we enter

TRINITY COUNTY.

Following up the Trinity River, for a considerable distance, we come to some mining claims about two miles below Douglass City—a small mining camp—in which, on the banks of the river, there have been found numerous fossil teeth, bones, and what was supposed to be part of a skull of the mastodon, imbedded in hard auriferous cement gravel, about eight feet deep; but most of the bones crumbled to dust after a short exposure to the atmosphere.

About eight miles above this on the river, there have been found numerous large fossil horse teeth, some of which were four inches long and about one and a half inches square, showing that they belonged to a very large species. These were found in auriferous gravel, from eight to ten feet deep.

In the various gravel deposits, of this county, there have also been found quite a number of stone relics, such as mortars and pestles, besides other interesting articles of uses unknown to us at the present time, but evidently made by human hands.

SISKIYOU COUNTY.

On Scott River, at a locality known as French Bar, in some mining claims, fossil teeth, and part of a tusk and some bones of the mastodon were found 20 feet deep, imbedded in auriferous cement gravel, with fossil flesh water mussels, making a somewhat singular conglomerate. On this river there have been found also stone mortars, pestles, and other stone relics, in gravel deposits at various depths.

Crossing over the mountains about in a northeasterly direction, we come to

YREKA COUNTY.

In this vicinity there have been found quite a number of stone mortars and pestles in gravel. North of here at Cottonwood, near the Klamath River, stone relics, such as mortars, pestles, arrowheads, etc., made of obsidian, have been dug up by the miners. Going southerly we cross over Scott mountain and reach

SHASTA COUNTY.

In this county, likewise, in the various gravel deposits, there have been found stone mortars, pestles, and other interesting relics, at various depths.

PLACER COUNTY.

About five miles northeast of Lincoln, stone relics, at various depths in the gravel deposits.

At Butcher's Ranch, below Todd's Valley, very large elephants' teeth and bones, besides smaller animals, in auriferous clay gravel, from 10 to 40 feet deep.

At Forest Hill, a short distance below the town, in a southerly direction.

At Byrd's Valley, in the auriferous gravel deposits, from 10 to 20 feet deep. We now cross the American River, into

EL DORADO COUNTY.

Stone relics near Georgetown, and at Spanish Flat, and vicinity; in the latter locality there have been found, besides stone mortars and pestles, large stone platters and oval stones, with grooves around them, having the appearance of being used as war clubs. Some other implements, probably used as handles for a bow, hollow on one side to fit the weapon, and convex on the other, to give the hand a better grasp, large spear-heads, made of obsidian, etc., are also found.

At a mining camp, known as Soapweed, similar stone relics are found in the auriferous gravel, from 10 to 20 feet deep. All the stone mortars are made of the very hard granite which is found in this State.

At Placerville, in auriferous gravel from 10 to 30 feet deep; at Shingle Springs, and three miles northeast.

AMADOR COUNTY.

At Fiddletown stone mortars have been found in the different gravel deposits from 10 to 14 feet deep.

Westerly from this at Forest Home, stone relics have been found from 20 to 30 feet deep. Traveling southerly from here we come to Jackson, and two miles south of this, in some mining claims, stone relics exist in gravel from 10 to 14 feet deep.

At Little Grass Valley, near Pine Grove, mastodon teeth and bones, besides numerous bones of smaller animals, have been found in auriferous clay gravel, from 10 to 16 feet deep, but most of the bones at once crumbled to dust on exposure to the atmosphere. In close proximity to these there were found stone relics.

CALAVERAS COUNTY.

At Railroad Flat, stone mortars were found, in the auriferous gravel deposits, from 10 to 16 feet deep.

At Murphy's Camp;—this locality has been quite prolific in fossil remains, such as the mastodon, elephant, and numerous smaller animals. Some of the elephants' teeth were over eight inches long and four and a half inches wide; some of the mastodon teeth, over six inches long and three inches wide, being found in auriferous clay gravel from 14 to 20 feet deep, in close proximity to stone mortars, pestles, arrowheads, etc.

The method of working the mines is such as frequently to destroy all delicate matter, and often if the bones escape the pick, they are destroyed to amuse the finder.

Southwest from this at Altaville, is the locality where the Pliocene skull was found, of which Professor J. D. Whitney, of the State Geological Survey, gave a full description. Only a portion of it is preserved. The frontal bones are entire. The bones of the face are in most respects complete. Almost all traces of teeth are gone; the skull must therefore have belonged to a very old person. A few human bones were found with it. The skull presents no sign of belonging to a race inferior to the present race of Indians. In so far as it differs it approaches the Esquimaux type. I give below the deposits passed through in sinking the shaft to the bed-rock.

No. 1.	Black lava (volcanic ashes)	40 feet.
2.	Gravel	3 "
3.	Light lava	30 "
4.	Gravel	5 "
5.	Light lava	15 "
6.	Gravel	25 "
7.	Dark brown lava	9 "
8.	Gravel, containing the skull	5 "
9.	Red lava	4 "
10.	Red gravel	17 "
		153 feet.

The skull was found in bed number 8, just above the lowest stratum of lava. With the skull were found fragments of silicified wood. The above are supposed to be the oldest remains of fossil man yet found.

A short distance from this there were some stone mortars, and other interesting stone relics, found in mining claims about 10 feet deep.

STANISLAUS COUNTY.

On the Stanislaus river, opposite Knights' Ferry, mastodon teeth and bones, besides what were supposed to be human bones of gigantic size, were found by some miners about 20 feet deep, some years ago, in a variety of conglomerate gravel. In various gravel deposits on this river, numerous stone relics have been found.

TUOLUMNE COUNTY.

In some mining claims on Gold Spring Creek, below Columbia, there have been found fossil bones and teeth of the mastodon, besides numerous bones of other animals, in calcareous tufa from 16 to 20 feet deep. This is one of the most prolific localities in the country; yet very few specimens have been preserved. There are a large number of fossil Helices, commonly called snail shell, and of small fossil fresh water shells. Beneath all there is auriferous gravel.

At Columbia, a short distance above this, there have been found stone relics in the gravel deposits.

Southerly from here, at Springfield, a small mining camp, stone relics in different mining claims.

At Shaw's Flat large fossil teeth and bones of the mastodon, and other large animals, at various depths, in the auriferous clayey gravel deposits. In the vicinity of these have been found numerous stone mortars, pestles, large stone platters and arrow-heads, made of obsidian.

Under Table Mountain. This consists of a plateau of basalt, which flows as lava from a volcano, covering in the bed of an ancient stream, and this basalt has resisted the wear of the elements, and now stands as a monument for miles in length. At the bottom of this is a rocky valley, showing "rim-rock," as the miners call it; it is shaped somewhat like a cup, and its rim rises on each side into visible mountains of older structure. This trough, so to speak, is filled with sedimentary gravel, and numerous fossils of huge animals, such as the mastodon, elephant, and other large animals, with numerous fossil trees and leaves are found, at various depths from 50 to 300 feet. Besides these there have been found stone relics, such as mortars and pestles, large stone platters, some very singular ornaments in the shape of large stone beads. There were also found some human remains in 1855, consisting of an immense jaw bone and some teeth; likewise what was supposed to be the two thigh bones of a man, well preserved. The under jaw of this skeleton is five and a half inches at the widest place, and is immensely strong. That of a common sized man now is about three and a half inches, at the same place of measurement. Here we have silent testimony that this country was once inhabited by a race of huge people, or at least by a race some of whom were gigantic. Since beasts of such wonderous size had their existence in that remote age, it seems human beings had to be constructed on a like scale of grandeur, the proportions of nature being then observed as now. Below all this is a vast sedimentary deposit of fossil leaves, from four to six feet thick. Some of the leaves are very large and of different varieties, having the appearance of belonging to a tropical climate. At the very bottom of this cup, so to speak, the gravel is rich in nuggets of gold, and the miner taps through the "rim-rock" to get at it, or descends to it by vertical shafts.

In the different mines on Wood's Creek, near Sonora, there have been found numerous fossil teeth of the mastodon, and tapir, in auriferous gravel deposits, besides stone relics.

At Soulsbyville;—this has been quite an interesting locality for fossils. Here also is the bed of an ancient stream, covered over by volcanic ash, locally known as "lava;" beneath this there is gravel, in which numerous fossils of the elephant, mastodon, and smaller animals, have been found at a depth of between 200 to 300 feet, safely covered with volcanic rock, as if God meant that man should some day read the record of his works, and so shut them in safely to preserve them from decay.

We now retrace our way to Sonora. Going southerly from here, we come to some mining claims known as Kincaid Flat, another interesting locality for fossils, such as mastodon teeth, bones and tusks, besides bones of other animals. These remains are found in a stratum of blue clay, about 16 feet deep, underneath which there is auriferous gravel. In close proximity there are stone relics.

A short distance from here, at Forktown Gulch, mastodon teeth and bones are found in the auriferous gravel about 30 feet deep.

MERCED COUNTY.

At Snellings, and vicinity, stone mortars and other stone relics are found in gravel deposits.

About six miles northwest from Snellings, on Dry Creek, fossil teeth and bones of the mastodon, besides other smaller animals, are found in a deposit of clay about 10 feet deep.

MARIPOSA COUNTY.

In the vicinity of Hornitos stone mortars, etc., are found in the gravel deposits at various depths.

About four miles northeast of Hornitos, in some mining claims on what is known as No. 1 Gulch, fossil bones and teeth of the elephant, horse, and other animals, are found in auriferous clay gravel about 16 feet deep. Some of the elephant teeth measured over eight inches in length and four and a half inches in width. Some of the horses teeth were over four inches long and one and a half inches wide.

At Princeton, in some mining claims, there are stone mortars, pestles, large spear-heads and arrow-heads made of obsidian, etc.

Three miles South of the town of Mariposa, in some mining claims, stone mortars, arrow-heads, etc.

At Indian Gulch, in gravel, stone relics.

Going from here in a southerly direction about ten miles we come to a dry creek, which empties into Bear Creek; at this locality there are found fossil bones and teeth of the horse, tapir, and mastodon, imbedded in a variety of volcanic ash, from 10 to 14 feet deep. That these animals perished by the overflow of volcanic ash the locality gives plain evidence.

FRESNO COUNTY.

On the Fresno river, about six miles above the Buchanan Hollow. Crossing at this locality there are to be found quite a number of fossil bones and teeth of the elephant and horse, imbedded in auriferous gravel 10 feet deep, on the bank of the river; also in the bed of the river from 8 to 12 feet deep.

About ten miles southeast of Millerton, on Dry Creek, was found a large fossil tusk, perhaps of the elephant, over eight feet long imbedded in alluvial soil three feet deep, which evidently had been buried much deeper at some time.

TULARE COUNTY.

At Gordon Gulch, about seven miles southeast of White River, in some mining claims, fossil bones and teeth of the elephant, mastodon and horse have been found.

MONO COUNTY.

At Independence, mastodon teeth and bones, in gravel.

SONOMA COUNTY.

Lately the skeleton of a mastodon was discovered on Petaluma creek. The tusks measured 22 inches in circumference, and the width of the skull is nearly four feet. In the vicinity of and on Mare Island fossil bones and teeth on the mastodon and horse have been found in close connection with fossil oysters.

CONTRA COSTA COUNTY.

About three miles from Antioch, towards Mount Diablo, there are found some teeth and bones of the mastodon in a species of clay, eight feet deep.

ALAMEDA COUNTY.

Near the Vallejo mills, mastodon bones are found in alluvial soil.

WONDERS WE READ OF.—Speaking of the meat from the sky, the water spirits, the ornithology, and meteorology of San José, the *Herald* seeks to make that rural retreat famous amongst remarkable places: It says:

Her astonishing, sensational, sea-serpent-like stories are a continual source of discussion in our Academy of Science; and much do the latter cogitate, and investigate her inexhaustible succession of marvels. Lately she had a shower of meat, illustrating the old proverb, that "he that hath, unto him shall be given." The next sensation of that community was a water-spot, which was found upon a bed quite early in the morning, for several days in succession, and which was supposed to have been produced by feline spirits of the incorporeal air. Then followed a story of a remarkable canary bird, as large as a turkey-cock, which sunned its plumage near the pleiades at midnight, and sang with that constellation, the music of the spheres. This bird fed on flesh, and it is likely that a wise dispensation of Providence sent it to devour the fields of meat and *beds* of water previously sent. The last wonder is a celestial phenomenon, consisting of two water dogs, which arose one morning with the sun to take a look at San José. They had horns, and two tails each, also wore spectacles, and were probably looking for more meat.

Mechanical.

Silver Plating in 1808 and 1840.—We condense and contrast the two methods here given, from the Birmingham correspondence of *The Engineer:*

An ingot of copper was planed by a machine, and a rolled plate of silver laid upon it,—the two touching surfaces being first scraped quite clean and bright. It was then "bedded,"—by placing upon it a heavy piece of iron, which was struck with a sledge hammer until every part of the two surfaces touched. It was then bound together with wires, a solution of borax was placed around the edges of the silver as a flux, and the whole was heated in a small furnace until union was effected. The ingot was then cooled gradually, the wires cut off, and the edges filed; it was then rolled to the required thickness, and was ready for the manufacturer.

In 1840 this clumsy process was completely superseded by the electro-plating. The manufactured article being first cleansed, is plunged into a solution of cyanide of mercury, and transferred at once to the plating vat, where it is suspended in the silver solution. The deposit goes on so regularly that its progress is accurately known. At the proper time the plated article is taken out, rinsed in cold water, dried, and the work is done. Its previous weight being known, its present weight gives the exact value of the silver upon it.

Solar Heat as a Motor.—M. Mouchot, in a communication to *Comptes Rendus* says that he proved, in 1861, the possibility of maintaining a hot-air engine in motion by means of the sun's rays alone; and that more recently he had boiled considerable amounts of water by the same means. With a silver reflector, having a surface of one square metre, he vaporized one litre of water (⅞ of one quart) in one hundred minutes. In June, 1866, he succeeded in operating a small steam engine with solar heat.

Pressure Not Power.—In the course of a recent discussion at the rooms of the Polytechnic Association in New York, Dr. Van der Weyde remarked that the difficulty with those who think they have discovered perpetual motion is, generally, that they confound *pressure* with *power*. The Dr. said: "We have been personally consulted, during the last ten years by eleven different persons, who supposed they had discovered perpetual motion; and, of the eleven, no less than nine had based their inventions on this fundamental error, imagining that simple pressure or attraction would produce perpetual force. In one of our scientific papers, it was stated that a cubic inch of water, if converted into steam, would exert power sufficient to raise a ton. This is no statement at all. If they had said—"raise a ton a foot high," we would know what was meant. When the element of time is introduced, we have power. Thus, 33,000 pounds raised one foot high in one minute is a horse-power. If eight minutes be occupied in the work we have a man-power."

Expansion of Iron during Cooling.—*Scientific Review* says that Mr. Gore, of Birmingham, whilst making some experiments on heating a strained iron wire to redness by means of a current of voltaic electricity, has observed that on disconnecting the battery, and allowing the wire to cool, during the process of cooling the wire suddenly elongated, and then gradually shortened until it became quite cold. No explanation of the action has been advanced.

The Largest Rope ever Made.—A round wire rope, 5 1-4 inches in circumference, 11,000 yards long, and weighing upwards of sixty tons, is now making in Birmingham. The rope consists of six strands, ten wires in each strand, and each wire measuring 12,160 yards. The whole length of wire is 726,000 yards, or 412 1-2 miles; the six strands surrounding a hemp center of 27 threads of rope yarn, each thread measuring 15,000 yards, or a little over 230 miles.

Galvanizing Iron.—The following is from the *Colliery Guardian*: To galvanize iron it is immersed for a certain period in an acid, to cleanse the surface, after which it is dipped into a bath containing melted zinc and tin. In this salts of ammonia are thrown, which operate on the metal as a solvent, and secure its more even distribution over the surface. From this bath is given off a dense, pungent, white-colored vapor, which is heavy, and, especially in damp weather, spreads and becomes offensive. Complaints have been made of this vapor, and various attempts have been made, without success, to prevent its passing into the atmosphere. The Wolverhampton Corrugated Iron Company have adopted a plan which is found effectual. The top of the bath is surrounded by an open flue which forms a projecting lip, and from this run pipes which communicate with a powerful fan. From the fan a large flue extends to a furnace, which is used for annealing the article galvanized. The fan, by exhausting the air from the pipes, causes a strong downward current of air to sweep over the surface of the metal, which drives the vapor into the flue, down the pipes, and from the fan to the furnace, where it is entirely consumed.

A Novelty in Turret Clocks.—Ritchie and Sons, Edinburgh, have just completed a large turret clock for the Bombay Harbor Board, which indicates the hours, minutes, and center-seconds upon a dial 8¼ ft. in diameter. It is said that this is the largest clock in the world having a center-second hand. The mechanical difficulties which beset such a construction of clock have hitherto been regarded as too serious to be faced. One is regulating the motion of the long center-hand, measuring 6½ ft. The momentum which it would have acquired at the point in passing through a space of 5 in.—the distance between one second mark and another—would have caused the hand to sway backwards and forwards during the whole second. Besides, the strain upon the machinery from such a motion would have been great. This difficulty has been overcome by a series of sixty levers, so arranged that the second hand rests in one of them at each beat; the point of the hand being so contrived that when it rests upon a lever it is detained there, and can get neither backwards or forwards until the clockwork removes the lever out of the way.—*Engineering.*

Horse Power.—The worst method of applying the power of a horse to the propulsion of machinery, is the endless chain horse-power in common use, even when properly made and set with reference to the machinery to be driven. In this contrivance the loss by friction is enormous, rotating wheels having to bear continually the whole weight of the horse and the shock of his steps. The only reason that it is commonly used is that it takes up little more room than the horse himself, and is easily transportable. This is not the case with the whim, which undoubtedly, when of larger diameter, is the most advantageous disposition of the tractive power of the animal.—*Am. Jour. Mining.*

Artificial Ebony.—This is made by taking sixty parts of powdered seaweed,—obtained by treating the seaweed for two hours in dilute sulphuric acid,—drying and grinding it, and adding to it ten parts of liquid glue, five parts gutta percha, and two and a half parts india rubber,—the last two dissolved in naphtha, then adding ten parts of coal tar, five parts pulverized sulphur, two parts pulverized alum, and five parts of powdered rosin, and heating the mixture to about 300° Fah.

Spun Glass.—M. Jules Brunfaut is exhibiting in Vienna, ribbons, head dresses, cuffs, collars, wristlets, watch-chains, fancy feathers—woven from finely-spun glass. The delicate threads are more tenacious, flexible and durable than any heretofore produced. They are as fine as the threads of a spider's web, and can be used for knitting or sewing, working equally well by hand or machine.

Hot Air Engines.—There are now in operation in the United States about 400 Roper hot air engines. These engines are specially adapted for use in shoe factories, small machine shops, printing offices, and other establishments where light power is needed. Several important improvements have been made in this engine, and it is rapidly gaining in popularity.

Omnimeter.—This is a new instrument invented by M. Eckold, for measuring distances, altitudes and angles. It embraces all the advantages of the theodolite and level, and does away with tedious chain measurements.

Scientific Miscellany.

What takes place in Luminous Flames?

E. W. Hilgard, in *Silliman's Journal* for March, has an article on "luminous Flames," a portion of which, in reference to certain exploded errors still taught in the books, we condense: Sir Humphrey Davy established the necessity of the presence of a solid incandescent body to produce useful luminosity; and in reference to the flames of hydrocarbons in particular, he suggested that the liberation of carbon in them was owing to the combustion of the hydrogen of the compound in advance of its carbon, the latter being heated to incandescence by an oxhydrogen flame, as it were, and failing to be consumed until all the hydrogen was first oxidized. It is remarkable that an explanation so directly at variance with the daily experience of blacksmiths, and with a lecture experiment performed even in the most elementary course of chemistry, could so long have passed current; for the decomposition of steam by ignited charcoal into hydrogen and carbonic oxide gases is an old observation. In 1852, at Heidelberg, Bunsen suggested to me as an interesting subject of investigation, the composition of the gases in the various portions of the flame. I constructed a lamp adapted to the introduction of a suction tube into the flame from below, and made a series of fifteen analyses of the gases so collected at various points of the interior cone of the flames of beef tallow, and of wax. My analysis showed the existence even in the highest portion of the cone, of free hydrogen with a large excess of carbonic oxide and carbonic acid; the amount of hydrogen varying but little from base to point, while the carbonic acid increased in about the same ratio as nitrogen, i. e., in proportion to the oxygen entering the flame. Bunsen as well as myself failed, however, to draw the legitimate conclusion from these facts, at the time. Landolt, two years later, took up the subject. He used illuminating gas of known composition, and was therefore enabled to determine the deficient factor in my analysis, viz., water; but he also failed to draw the inevitable conclusion as to what *must* happen in the luminous cone. Later, Lunge likewise failed.

In June, 1860, Erdmann first distinctly enunciates that the carbon in a flame is oxidized *before* the hydrogen, and that the separation of carbon upon which luminosity depends, is due to heat alone, as would be the case were the gas passed through a red hot tube.

Finally, eighteen months later, Kersten proves by eudiometric experiments that whenever a hydrocarbon is exploded with oxygen, insufficient to burn more than the carbon to carbonic oxide, no hydrogen at all is oxidized; but that as between carbonic oxide and hydrogen, the formation of carbonic acid on one hand and of water on the other depend upon "chemical mass," as Bunsen had already shown.

This question has therefore been settled by experiments, as much as eight years. Yet the latest editions of text-books published in this country still retain the old error regarding the successive oxidation."

Magnetism and High Temperature.—M. Treve read a communication at a recent meeting of the French Academy, relative to the "action of electro-magnetic currents on liquid iron. He caused some molten iron to pass into a cylindrical mold in the axis of a magneto-electric bobbin, and at the same time, and for the purpose of comparison, he allowed some of the iron to pass into a mold of the same form and size as the first, but unconnected with the magneto-electric apparatus. After cooling, it was found that there was no difference in crystallization between the two casts; but it was found that the iron passed through the bobbin had acquired and maintained even in cooling, a certain considerable amount of magnetic action; "thus,"—said the author,—"proving that there is no incompatibility between magnetism and high temperature."

Pure Water in Lead Pipes.—Dr. Schwartz, of Breslau, suggests the protecting of water from the poisonous action of lead pipes, by forming on the inner surface of the pipes an insoluble coating of sulphuret of lead. This is done by filling them with a warm and concentrated solution of sulphuret of potassium or sodium, and allowing it to remain about fifteen minutes.

Spontaneous Generation.—Dr. J. H. Bennett, of Edinburgh, contributes a paper to *Popular Science Review* for January upon "The Molecular origin of Infusoria." He says that all who have carefully watched, with the microscope, the molecular pellicle which floats on the surface of putrefying or fermenting liquids, have admitted that the infusoria originate and are developed therein. He holds that the germs of these organisms do not exist in the air, nor multiply by self division, nor are they capable of elongating or aggregating, thus forming filaments or larger masses, unless by the union of other molecules like themselves. He holds, also, that they cannot preëxist in the water, as the numerous experiments by Pouchet, Meunier, etc., have shown that all animal and vegetable germs are killed by boiling them; yet nothing is more certain than that long ebullition of various infusions has wholly failed to prevent the formation in them of animal and vegetable growths," the molecules appearing in them after the water cools. He ascribes their origin to phenomena of a chemical nature; the results of the discussions in the French Academy of Sciences for the last eight years, showing "that not the slightest proof is given by the chemists, with M. Pasteur at their head, that fermentation and putrefaction are necessarily dependent on living germs existing in the atmosphere." In conclusion, the author holds that the infusoria, animal and vegetable, "originate in oleo-albuminous molecules, which are formed in organic fluids, and which, floating to the surface, form the pellicle or proligerous matter. There, under the influence of varied conditions, such as temperature, light, chemical exchanges, density, pressure, and composition of atmospheric air, and of the fluid, etc., the molecules by their coalescence, produce the lower forms of vegetable and animal life."

The Microscope in Blow-pipe Chemistry.—At a recent *soiree* given by the President of the Royal Society, Mr. H. C. Sorby, F. R. S., showed some new applications of the spectrum-microscope. The following is one of these as described in *The Engineer*: A borax bead saturated with the substance to be examined, is kept hot over a lamp, so that crystals may be deposited in it. By using the microscope many elements may then be easily distinguished in the form of crystals, which are often of extreme beauty. When much mixed, however, or combined with silica or other acids, as in natural minerals, it is often requisite to add various reagents, such as phosphate of soda, microcosmic salt, boracic, molybdic, and tungstic acids. These give rise to characteristic crystalline deposits; and we may thus distinguish lime, magnesia, baryta, and strontia, even when combined with silica, and can even detect magnesia when mixed with several times its weight of lime in impure limestone."

Jargonia.—This is a newly-discovered earth, closely allied to zirconia, and found in small quantities with zircons from different localities. The following are its properties as described by Mr. Sorby: "The natural silicate is almost, if not quite colorless, and yet gives a spectrum which shows above a dozen black lines much more distinct than even those characteristic of salts of didymium. When melted with borax it gives a glassy bead, clear and colorless, both hot and cold, and no trace of absorption bands can be seen in the spectrum; but if the borax bead be saturated at a high temperature, and fused so that it be filled with crystals of borate of jargonia, the spectrum shows four distinct absorption bands unlike those of any other known substance."

Value of Dry Bones.—Prof. Johnston says that one hundred pounds of dry bone-dust add to the soil as much organic animal matter as three hundred or four hundred pounds of blood or flesh, and also, at the same time, two-thirds of their weight of inorganic matter—lime, magnesia, common salt, soda, phosphoric acid—all of which should be present in a fertile soil.

Eclipse in 1869.—There will be two eclipses of the sun and two of the moon, during the present year. A total eclipse of the sun will occur on the 7th of August, and will be visible to North America and Eastern Asia. It will begin at Boston at 5:24 P. M.

Company Transactions.

New Incorporations.

New articles of incorporation have been filed, as reported in our exchanges during the past week, in the County Clerk's office in this city, and the Secretary of State's office at Sacramento, etc., as follows:

MINING COMPANIES.

The number of these is less this week than last, their place being represented by land purchasing incorporations, as seen below under Homesteads.

The George Washington S. M. Co., White Pine. April 23d. Capital stock, $100,000. Trustees—E. Hilton, M. J. Wright, E. J. Wilson, A. Powell and W. C. Greaves.

The Armadilla M. M. Co., White Pine. April 23d. Capital $2,400,000. Trustees—William Hollis, J. W. Jordan, H. N. Tilden, Cyrus Bradley, J. H. Seymour, J. Stratton J. Seymour and C. B. Tilley.

The Victoria M. and M. Co. Object, to work mines of gold, silver and lead in White Pine. April 26th. Capital stock, $1,200,000; 1,200 shares of $100 each. Trustees—D. L. Emerson, R. P. Thomas, I. S. Waing, C. Walker, G. W. Durgan, H. A. Palmer and T. C. Coxhead.

The Chloride Flat S. M. Co.; location of claim, White Pine. April 26th. Capital stock, $2,500,000; 25,000 shares of $100 each. Trustees—J. F. Miller, T. B. Shannon, S. Clark, Nathaniel Page and C. A. Parsons.

The Thomas Tobin. White Pine. April 29th. Capital stock, $1,000,000.

The Chester Co. White Pine. April 29th. Capital etock, $1,800,000.

The Pomeroy & Dixon Co. White Pine. April 29th. Capital stock $500,000.

At White Pine, says the *News*, but one certificate of incorporation has been filed with the County Clerk,—the Industry—one of the promising claims of the Pogonip.

HOMESTEAD ASSOCIATIONS.

Increased interest is taken, especially by those who command small, but regular incomes in real estate, not only in San Francisco and the larger cities of California, but large tracts of land, which are actively canvassed all over the State, with a view to their subdivision into farms. Thus our new community is dividing itself—as observable under this department—into two or more classes, which may be recognized by their fundamental differences in character: the regular, plodding and less ambitious sort, who in many instances have experienced their mining campaigns as well—who are content, at all events, with moderate things; and the ambitious, the energetic and hopeful, who are taking possession of the wealth and resources of the great interior, who aim and are destined to obtain the many splendid prizes that are scattered to reward their greater risk and enterprise. The *Occident*, representing the spirit of the former, says:

The Homestead Association is a wonderful invention. It furnishes an unsurpassed savings bank. It diffuses wealth. It provides a home with all its delightful charms and attractions. It encourages marriage and the blessed family relationships—the unequaled safegnard of man and woman. It tends to drive poverty into banishment, by preventing vicious habits. When the world is a Universal Homestead Association, the millenium will have come, and everybody may eat their own grapes and figs without fear of molestation.

The following are the additional incorporations recorded or spoken of during the week:

Mission and Thirtieth St. Homestead Union.—Object, to purchase certain lands in the Fairmonnt Tract, San Francisco County; to improve and divide the same into lots suitable for homesteads amongst the shareholders. April 29th. Capital stock, $103,125, divided into 275 shares of $375 each. Trustees: Wm. J. Gunn, Wallace Everson, John W. Shaeffer. B. H. Ramsdell, Gottleih Beer, Charles F. Brown and Joho Kurtz.

Park Hill Homestead Association.—Object, to purchase certain lands on Fourteenth street, and adjoining Park Hill; the improvement thereof, and its subdivision into lots and parcels suitable for homesteads, and their distribution amongst the shareholders. April 29th. Capital stock, $900,000, divided into 100 shares of $900 each. Trustees: Alfred Rix, Egbert Judson, Claus Spreckels, Thomas Varney, C. T. Forrest, Ludwig Altschul and R. K. Rogers.

Oakland Homestead Association.—April 29th. Certificate of the increase of the capital stock from $62,500, divided into 125 shares of $500 each, to $69,500, divided into 139 shares of $500 each.

Concordia Homestead Association.—Object, the purchase of certain lands forming a portion of Bernal Rancho, the improvement thereof, and its subdivision into lots and parcels for distribution amongst the shareholders. April 29th. Capital stock, $111,650, divided into 319 shares of $350 each. Trustees and officers: Jacob Greenhaum, President; L. B. Watson, Treasurer; Louis Kaplan, Secretary; L. B. Collins and J. D. P. Teller, Trustees.

The Union Pacific Railroad Homestead Association.—The tract of land selected by this association is east and southerly of the present passenger depot, at Vallejo, and along the stage road leading from that city to Benicia, about fifteen minutes' walk from the depot, and a like distance from the passenger wharf at South Vallejo. The price of shares is fixed at $225, payable in installments of $10 per month.

In regard to the White Tract Homestead Association, mentioned in our last issue, the Vallejo *Recorder* of April 23d says: The price of lots (a fifth of an acre) has been fixed at $150 each, payable in installments of $10 per month. It is known that this tract of land lies between the California Pacific Railroad and the waters of our bay, accessible to either, at all times. The land is gently undulating and highly productive, and what lends additional value to it is that the Vallejo and Humboldt Railroad passes through the whole length of the tract.

Homestead Farm Association.—This association proposes to divide 50,080 acres of good agricultural laod, situated in Kern county, on the southwest of Tulare lake, and extending to the foot-hills on the west, ioto 313 shares of 160 acres each, to be paid for in thirty-six equal installments of $25 each, payable monthly without interest. The projected branch of the Southern Pacific Railroad passes through the entire tract.

MISCELLANEOUS ENTERPRISES.

Pacific Lumber Co.—Tho Humholdt *Times* says: The object of this company is to buy timber lands, erect sawmills, construct booms and piers, steam tugs and tow boats, or huy them, cut, saw, transport and sell lumber, and do all else needful to carry out the ahove ends. The capital stock is $500,000, in 5,000 shares of $100 each. Place of busioess, San Francisco. Duration fifty years. Trustees, A. M. McPherson, H. Wetherhee, C. J. Breuham and L. L. Rohinson. The company, it is said, will operate on Eel river, and it is understood that the tog heing huilt by McPhersoo and Wetherhee, at San Francisco, has some connection with the plau of operations.

Orleans Hills Vinicultural Association.—This is the title of a corporation, with capital stock fixed at $150,000; place of husiness Sacramento; Secretary, Carl Strohel. The object is to raise, ou a large scale, superior qualities of wine and table grapes in the foot-hills of Yolo county. The grounds are situated about 18 miles west of Woodland, a large portion being at present under a high state of culturc, an old and extensive vineyard heiog sitnated on the same. The husiness, heretofore uoder the management of Jacob Knauth, is sought to he enlarged, and wine making entered into upon an extensive scale. To do this an extensive capital is reqnired, hence the object of incorporating.

California Slate Co.—A company under this name, intended to engage in quarrying at Alvord City, Calaveras county, has been organized under the auspices of S. F. Butterworth, L. A. Pioche, William Alvord, and L. L. Rohinson, who are about to incorporate, haviug leased Flint's wharf and warehouse with a view to furnishing slate in any quantities for roofing, flooring, siding, paviog, table-tops, mantles, etc. At the quarries the company have a boarding-house for the accommodation of their workmen. They have gone down about thirty feet.

The Inventor's Association.—Object, to improvo the mechanic arts, encourage inventive genius, seek out inventions aud improvements of every kind, help inventors, huy and sell real and personal property, etc. Capital stock, $100,000; 2,000 shares of $100 each. Trustees: W. A. Arnold and J. Kindleherger.

Eureka Typographical Union Cemetery Association.—The Eureka Typographical Union No. 21, filed a certificate of incorporation April 24th. The object is to create a common fund among printers of this city and State, for the purchase of land for a cemetery, and to invest money for the members in lands, lots, etc. Capital stock 5,000, in 1,000 shares of $5 per share. Trustees: Frank Smith, E. Armand, J. M. Dormer, P. Nichols, G. K. Hilton, Robert Glen and M. Cuddy.

North Pacific Transpotation Co.—With regard to this remoddled mammoth corporation the Contra Costa *Gazette* of April 3d, says: It succeeds the California, Oregou and Mexico Steamship Co., which was incorporated under the laws of New York, and was a New York Co. The new corporation is exclusively Californian, and will conduct its business in the interest of the Pacific coast. The capital is five millions of dollars. They own nine side-wheel and seven screw-propeller steamers, aggregating about 17,000 registered tounage. Nearly all the vessels are in active service. The officers are—President, Wm. Alvord; Vice-President, Jesse Holladay; Secretary, C. J. Benham; Treasurer, Wm. C. Ralston. Messrs. Holladay and Benham were the executive men of the old company, and will he of the new. This is the most powerful corporation on the Pacific coast, and will soon control the coastwise steam transportation from the Gulf of Anadir to the Straits of Magellan.

Meetings, Elections, Etc.

MINING COMPANIES.

The Silver Cord M. Co. held their annual meeting in this city on Tuesday, April 27th, when the following gentlemen were elected Trustees for the ensuing year: M. J. McDonald, L. J. Lewis, David Fay, E. W. Woolsey and C. W. Fox. The claim of the Co. is near the Golden Chariot, Owyhee county, I. T.

New Idria Quicksilver M. Co.—At the annual meetiug of this Co., held on April 26th, the following Trustees were elected: Wm. E. Barron, Thomas Bell, D. O. Mills, Wm. Burling, W. C. Ralston. Wm. E. Barron, President, and E. Mickle, Secretary.

Noonday M. Co.—An election for Trustees of this Co. was held April 26th, resulting in the choice of the following gentlemen: J. D. Fry, George Coogdon, C. W. Jones, H. P. Wakelee, R. B. Fordham. The Board subsequently organized and appointed J. D. Fry, President, G. Congdon, Vice-President, and Charles E. Elliott, Secretary. From the Secretary's report we learu that 41 tons of ore have been crushed during the past three months, averaging over $110 per ton.

LAND AND HOMESTEAD ASSOCIATIONS.

Land Purchasers' Association.—At the first annual meeting of this Association, held April 26th, the following gentlemen were elected Trustees for the ensuing year: J. W. Cherry, Chas. J. King, J. A. Magagnos, J. F. Crosett, J. M. Haven, Chas. Sontag, H. Keller, E. P. Gray, W. E. Mayhew, George Spauling and George R. Eckley. The Board of Trustees subsequently met and appointed the following officers for the ensuing year: President, John W. Cherry; Vice-President, Charles L. King; Treasurer, James R. Eckley; Secretary, James F. Crosett.

Terminus Farm Homestead Association. At the annual meeting of the stockholders a resolution was passed instructing the Directors to take the necessary steps for the immediate distribution of the property. The following gentlemen were elected officers for the ensing year: President, J. C. Collius; Vice-President, H. M. Rosekrans; Treasurer, J. L. Blaikie; Secretary, I. T. Milliken; Trnstees,—W. B. Cummings, J. Crowninshield, H. Toliken, L. J. Henry and W. A. Davidson.

Celtio and Teutonic Farm Association.—An association under this name was organized on Tuesday; April 27th, by a public meeting held at Kelly's Brooklyn Hotel, on Bush street, which was presided over by Thomas Mooney and addressed by Rev. Father Gallagher, Phillip A. Roach, John Corkery, and Messrs. Wion, Hopkins and Meagher. The object is to purchase large traets of land in this State—some 60,000 acres—with the view of subdividing these tracts into moderate sized farms, to he sold to actual settlers for part cash and part on time. The capital stock was fixed at $500,000, in 5,000 shares of $100 each share. Subscribers may pay up their shares in full on subscribing, or by installments of $10 a month. Dividends from profits to he allowed *pro rata*; $5 entrance fee for each share to be paid on subscribing. The following Committee of 13 was appointed to open a book for subscriptions to the stock, and organize a Board of Trustees, and report officers and by-laws to a future meeting: Daniel McCarthy, F. H. Kast, Charles Moneypenny, Phillip A. Roach, John Corkery, Michael Flood, John Dunn, Michael Grady, Coroclius Collins, John A. McGlynn, John P. Schmitz, Michael Meagher, James Gallagher, Jas. McDonongh, and Thos. Mooney.

Sacramento Farm Homestead Association.—A meeting of the stock-buyers in the Norris Ranch Homestead Association, was held in the Fifteenth District Court Room for the purpose of making inquiry and taking action in regard to the current reports that "large portions of the ranch were nnder water, and that a great portion which was dry was not susceptible of cultivation." A committee was appointed to visit the ground, consisting of Reddington, of Sacramento, Calvin Brown, Civil Engineer at Mare Island, and General A. M. Winn, of this city.

MISCELLANEOUS ENTERPRISES.

Oregon Manufacturing Co.—At the annual election of the Oregon City Manufacturing Co., held at Oregon City, April 24th, the following gentlemen were elected: R. Jacobs, President; L. White, Vice President; W. S. Ladd, Treasurer; Wm. Howell, Secretary; I. Jacobs, and Iram White, Directors.

Mechanics' Mill and Manufacturing Co.—At the annual meeting of the stockholders of this Company, which took place on Monday, April 26th, the following gentleman were elected Trustees for the ensuing year: G. B. Knowles, Asa R. Wells, A. W. Jee, Munson Russell, H. S. Tyler, G. Welton, and George R. Jesse. At a subsequent meeting of the Board, Arthur W. Jee was reëlected President and Treasurer, and Asa R. Wells, Manager. Munson Russell was elected Secretary, *vice* E. A. Holmes, deceased.

Stockton and French Camp Turnpike Co. The following officers have been elected: E. Moore, President; Herbert E. Hall, Secretary; C. W. Kidd, Treasurer. Directors, Samuel Fisher, J. Nichols, John Sedgwick, M. McClenathen, L. M. Hickman. The receipts for the year ending April 22d, amounted to $7,475 33; dishursements during the same period, $8,008,50; balance in the hands of the Treasurer at the commencement of the year, $737 45; halance in the hands of the Treasurer at the closo of the year, $204 19.

Vaca Valley R. R. Co.—The following gentlemen were elected as directors of this company on Saturday last, April 24th: Mason Wilson, President; Richard Thompson, Secretary; A. P. Bernard, Treasurer; A. C. Hawkins, G. B. Stevenson, William B. Davis, G. F. Barker, E. R. Thurher, Joshua Donaldson, M. R. Miller, Thomas J. Jeans and Moses Blum. On taking the chair Mr. Wilson stated that $25,000 was subscribed to the capital stock, leaving but $10,000 or $12,000 to he taken of the full amount required. He felt assured that the enterprise was favorably regarded by the managers of the California P. R. R., from whom hostility had been apprehended. This he regarded as bnt the beginning of a grand sub-central line, destined ere long to extend to Berryessa Valley, and thence northward, affording a ready and cheap outlet for the immense agricultural and mineral treasures of Upper Napa and Lake counties.

Howland's Engine.—The Miners' Foundry is now building hree of Howland's new rotary valve engines, each 5-inch cylinder and 8-inch stroke. They are rated at 17-horse power, and are estimated to run np to 20-horse-power with 80 pounds steam. This engine will prove a decided advance step towards simplification and effectiveness in the steam engine, if its more thorough trial shall continue to realize the estimation now placed upon it by the inventor.

One of the above engines is for Logan & Co., White Pine, to he used with one of S. Howland's quartz grinding mills; and another is for Keefer & Co., of Georgetown, El Dorado County. With the latter goes one of Howland's rotary stamp batterics, just completed at the same foundry.

The Snow Sheds on the Pacific Railroad cover an aggregate of forty-four acres of land, and have required more than 40,000,000 feet of lumber for their construction.

John Le Conte, Professor of Physics in the State University, has arrived from the East, and will take his place in Oakland College during the ensuing term.

Stock Review.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

SAN FRANCISCO, May 1, 1869.

Financial.

Our local money market is still quite close, but not to any extraordinary extent. As it had been anticipated for some time, business men prepared to meet the occasion. The Savings and Loan Banks have their balances drawn down to a low margin, and have ceased making loans. They have refused offers of 1½ per cent. per month on good real estate securities. An immense amount of improvements are going forward in this city, calling for the use of large sums, while other enterprises concur to draw largely upon our available current funds. Commercial transactions do not keep pace with other pursuits just at present, but the jobbing trade is fairly active, and business generally is healthy and promising.

Bullion is in fair supply, while the Branch Mint is kept actively at work furnishing coin. We quote gold bars at 899@895, and are generally required for coinage. Silver bars sell from par to 1¼ per cent. premium, and appear to be in demand for shipment to China, in place of gold. Currency bills on Atlantic cities pay 29¾ per cent. premium on gold; coin drafts are negotiable at 2 per cent. premium; telegraphic transfers are nominal at 3¾ per cent. premium; sterling exchange, 48¾d; commercial exchange, 49¼d; Mexican dollars, 7@7⅛ per cent. premium. Gold in New York, April 30th, 134⅛. Legal tenders with us, 75@75⅛.

To say that the weather vouchsafed to us during the past ten days has been exceedingly fine would scarcely do justice to its surpassing loveliness. Every interest has been benefited by this timely boon. The growing crops are now beyond the reach of ordinary disaster and promise much the most abundant yield ever known.

We are under obligations to Mr. J. M. Good, Adjuster of Duties, for the following late decisions made by the Secretary of the Treasury: Cigars, cigarettes and cheroots must be put up in boxes and stamped before leaving the custody of the Custom-House officers; cigarettes, when imported in bundles, must be put up in boxes of 600, and duly stamped; cigarettes weighing more than three pounds the thousand are to be taxed the same as cigars; mineral waters, although imported in bottles holding a little more than one quart, are not chargeable with additional duty. Pearls and pearl shells, the product of American fisheries, are duty-free, although they may be shipped across the Isthmus. The penalty exacted for stamping an unstamped instrument, amounting to $50, is not subject to remission. Vessels carrying domestic and duty paid goods may clear direct for Wrangle Island and Tongass, without going to Sitka. The custom officers at Tongass are authorized to enter and clear vessels from and to foreign ports, and receive duties. Registered vessels may engage in the fisheries, and all fish caught by American vessels, although cured with foreign salt, to be duty free. No drawbacks will be allowed when entry is made after the goods are laden. The restriction against the importation of firearms in Alaska has been removed, or rather transferred to the discretion of the military commandant.

A Package Express Company has been inaugurated in this city, under the auspices of D. V. B. Henairic as President, T. A. Mudge as Secretary and Treasurer, and H. B. Murray as Superintendent. The object is to deliver packages to any part of the city. In addition to a rebatement of nearly 50 per cent. on rates heretofore exacted, passengers by rail and steamboat will be freed from the importunate and rude solicitations of hackmen and boarding-house runners, as the company will have an agent on all roads and steamers who will give receipts for baggage and parcels, which will be conveyed to their destinations by the company's wagons. It is another step in the proper direction.

City Stocks.

With regard to miscellaneous securities, transactions have been limited during the past week, the market being flat, particularly in Insurance stocks. We note sales of 50 shares San Francisco Gas Co. stock at $75, and 65 shares Spring Valley Water at $66 50@66 62½ per share. At the close, 10 shares Napa Wood Co. stock sold at $30 per share. The Pacific Bank and the North Beach and Mission Railroad dishurse their usual monthly dividends to-day. The San Francisco Gas Co. and the Sacramento Gas Co. also dishurse their monthly dividends to-day.

The returns of our local insurance companies to the Internal Revenue department for the month of March and previously this year have been as follows, upon a currency basis of 74 cents on the dollar for the month of January, 77½ cents for February and March:

	March.	*Previously this year.*	*Total.*
Pacific	$106,451	$166,621	$273,072
Union	60,911	74,185	135,096
Fireman's Fund	49,966	43,107	*93,074
California	12,351	20,804	33,155
Merchants' Mutual Marino...	26,653	40,657	67,310
Occidental	27,579	30,166	57,745
Home Mutual	13,987	27,381	41,368
Peoples'	13,481	28,672	42,153
Total	$311,379	$431,593	$742,972
Same time in 1868	184,398	321,756	506,154
Increase in 1869	$126,981	$109,837	$236,818

The above statement shows the gratifying gain of $102,137 over the receipts in February. The receipts of the several companies in March as compared with February show the following difference:

	Increase.	*Decrease.*
Pacific	$20,641	.....
Union	28,835	.....
Fireman's Fund	29,728	.....
California	625	.....
Merchants' Mutual Marine	10,993	.....
Occidental	9,945	.....
Home Mutual	339	.....
People's	1,939	.....

The receipts of the city railroads for the month of March and previously this year were as follows:

	March.	*Previously this year.*	*Total.*
Omnibus	$24,510	$42,457	$66,967
North Beach & Mission	24,019	40,908	64,927
Central	15,159	27,383	42,542
Front Street, Mission & Ocean	8,979	15,581	24,560
Market Street	11,545	19,383	30,928
Potrero and Bay View	2,993	4,132	7,035
Totals	$88,115	$149,844	$237,959
Same time in 1868	76,727	136,107	212,834
Increase in 1869	$11,388	$13,737	$25,125

As compared with the total receipts in February, we find a gain of $15,114. The receipts of March as against February show the following difference:

	Increase.	*Decrease.*
Omnibus	$4,289	$2,834
North Beach and Mission	4,020	.....
Central	2,550	.....
Front Street, Mission and Ocean	1,247	.....
Market Street	2,948	.....
Potrero and Bay View	780	.....

Mining Share Market.

With reference to the mining share market for the period under review, we note a continued strong activity during a greater portion of the week, and at improved rates; however, a slight reaction took place on Thursday, just at the culmination of a considerable "corner" in Sierra Nevada stock, which was the occasion of some little flutter in the Board. Otherwise, the market is in a very hopeful condition, and the continued fine developments in the Hale & Norcross claim in its lowest levels, has had the most encouraging effect upon all the Comstock claims. Of White Pine stocks we note a rather better business. The following sales were effected during the past week: 85 shares Brodt at $2@1 50; 64 Pocotillo, $17; 60 Phœnix, $2 50; 10 Virginia, $15 s. 30; 100 Silver Wave, $10 s. 30.

AMADOR (Cal.)—ruled at $290@285. This mine continues to look as well as usual....ALPHA improved from $24 50 to $41, and closed at $40....AMERICAN was in large request, advancing to $56 50, and closing yesterday at $56....BELCHER also sold to a more than usual extent, within a range of $17 50@24 50, closing at $22 50.

CHOLLAR-POTOSI—was in moderate request, rising from $201 to $250, and at the close selling at $243. During the week ending April 23d, 1,000 tons of ore were extracted. The Blue Wing portions of the mine are showing better ore than was in sight a week previous to the 23d, and the drifts on the fourteenth floor south and the twentieth floor north, exhibit the principal improvement. The New Tunnel stope promises well, and it is expected will yield a larger quantity of good milling ore than has been in sight for several weeks. During the twenty-four hours ending with the 28th inst., fifty-five tons of ore were extracted. Four mills are now employed in reducing the ore coming from this mine. Eleven bars of bullion, valued at $29,860, were received on the 23d April.

CROWN POINT—improved from $56 50 to $68, and closed yesterday at $67. The bullion returns from the amount of ore on hand at the time of the fire in the mine aggregates $12,560....KENTUCK advanced from $248 to $270, closing at $259. The amount of bullion received for account of the month just closed is $18,377 73....YELLOW JACKET sold within a range of $58@70, closing yesterday at $65 50. Telegrams of the 29th state that "hoisting ore was re-commenced last night from the upper levels of the Kentuck mine, after a lapse of over three weeks. Work was re-commenced in the Yellow Jacket at 6 o'clock this morning. They have been removing waste and caved matter to-day, and will hoist ore to-morrow. The air is good all through the mine. In the Kentuck the air is also good; but the draft being south from the Yellow Jacket, the air in the Crown Point is bad, preventing work. Some gaseous smoke is still coming from the shaft, but the fire is thought to be all extinguished."

HALE & NORCROSS—ruled at $123@152, closing yesterday at $151 60. During the week ending April 24th, the product of ore from the fifth station levels amounted to 191 tons, being an increase of 110 over the previous week, and the value per ton also shows an assay improvement of nearly $15—from $110 to $123 60. The report for the above week is as follows:

Levels.	*Tons.*	*Assay value.*
175 feet	295¾	$14,012 50
Third station	56¾	2,911 27
Fourth station	562½	27,163 12
Fifth station	191	23,584 68
	1,105¾	$67,671 57

During the same week they delivered 918 tons to the mills, leaving on hand 1,092 tons. The continued work in cross-cut No. 3 is developing an excellent quality of ore, and the width of the vein has not yet been ascertained. The breasts between cross-cuts Nos. 2 and 3 look very well, showing twenty-one feet of ore between the walls. The face of the south tunnel on the fifth level is now fifteen feet south of cross-cut No. 5, and on the 27th of April there was a streak of ore in the face of the drift some two feet wide, the ore being found east of the east clay wall and assaying $96 to the ton. Both "raises" above the third level are reported to show excellent ore in considerable bodies lying east of the vein heretofore worked. The total bullion product for March account has been received and foots up $74,888.

IMPERIAL—met with moderate sales, improving from $70 to $79, and closing at $77. The bullion receipts for April account to the 27th foot up $20,929 61. Nothing of an encouraging nature has yet been found in the lower levels running from the Imperial-Empire shaft.

OPHIR—was in the market to a considerable extent, at slightly varying rates, closing at $33 25. On the 28th of April the drift had been extended a distance of 228 feet, and the clay is found at the bottom of the drift, while at the top the rock is cut up with clay seams. The entire face of the drift is at present very dry.

WILLAMETTE UNIVERSITY.—We observe by a new prospectus of the medical department of this institution for 1869-70, that important changes have been made in the professorships, several members of the faculty as named in a previous circular having "resigned for peculiar reasons," while Dr. Carpenter takes the position of Dean. Owing to other engagements, Prof. Veatch has vacated the chair of chemistry and toxicology.

OPERA CLASSES, Telescopes, Magic Lanterns, Drawing Instruments, Microscopes, etc., at $5 each C. Muller, 215 Montgomery street, Russ Block. *_*

Weekly Shareholders' Directory, for Meetings, Assessments and Dividends.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Adriatic, Storey co., April 20, $1	May 27	June 7
Alpha Cons., Storey co., Nev., div. $2	Pay. June 19, 1868	
Almaden, Nevada, March 17, $2	April 20	May 3
Accidental, White Pine, March 30, 25c	April 30	May 30
Amador Co., div. $6 per share	Payable April 7, 1869	
Brodt	Annual Meeting May 4	
Bowden, White Pine, April 14, 5c	May 29	June 14*
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co., Nev., March 15, $4	April 17	May 3
Bullion, Storey co. Nev., March 20	Payable immediately	
Cinderella	Annual Meeting May 4	
Cayuga Chief	Annual Meeting May 3	
Capitol, White Pine, April 19, 10c	May 17	May 31*
Challar Potosi, div. $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12	1868
Coney, preferred Stock, div. 1½ per cent	March 10,	1869
Cordillera, Mex., March 16, $1	April 20	May 10*
Dios Padre, Mexico, April 29, $4	May 31	June 21*
Daniel Webster, White Pine	Annual Meeting May 10*	
Raney, Lyon co. Nev., March 6, $2.50	April 12	May 1
Etna	Annual Meeting May 17	
Edith	Annual Meeting May 17	
Enterprise, Nevada co., March 22, $1	April 22	May 8
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $10	Payable April 6, 1869	
El Paso, Sonora, March 22, $5	April 23	May 17
Fogus, Amador co., April 23, $5	May 29	June 18
Featherstone, White Pine	Annual Meeting May 5	
Glenwood, El Dorado co	Annual Meeting May 7	
Gould & Curry, div. $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Chariot, Idaho, div. $2.50	Payable March 20, 1869	
Golden Rule, Tuolumne co, div. 80c	Payable Jan. 10, 1869	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hope Gravel, Nevada co., April 6, $1	May 18	May 31
Independence, Sierra co	Annual Meeting May 3	
Imperial, Storey co., Nev., div.	Payable June 20, 1868	
Julia, Storey co., Nev., March 19, $2.50	April 22	May 10
Kearsarge, Inyo co	Sale May 11	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Lexington, White Pine, April 28, 25c	June 3	June 23
Lett & Poole, White Pine, April 23, 20c	May 31	June 24
Mocking Bird, White Pine, April 15, 10c	May 20	June 7
North Star, dividend, $5	Payable Aug. 15, 1868	
North Amer. Wood P. Co., March 12, $1	April 14	May 1*
Original Hidden Treasure	Annual Meeting May 4	
Oneida	Annual Meeting May 3	
Occidental, div. $2	Payable March 2, 1869	
Ophir, Storey co. Nev., March 20, $20	April 23	May 8
Phœnix, White Pine, April 27, 25c	May 27	June 26
Planet, Arizona	Annual Meeting May 3	
Pacific Unassessable, div.	Payable June 18, 1868	
Pacific, Coal, Contra Costa co., Mar. 20, $4	Ap. 27	May 17*
Quail Hill, Calaveras co., April 2. $10	May 11	May 31
Rising Star	Annual Meeting May 17	
Rathbun, White Pine, April 19, $1	May 25	June 14
San Buenta Ventura	Annual Meeting May 20	
Siempre Viva, Mex., April 15, $1	May 21	June 7*
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1	Payable Jan 5, 1869	
Savage, Virginia, Nev. dividend, $4	Payable March 4, 1869	
Senator, Storey co., Nev., March 26, 50c	May 1	May 28*
Silver Sprout, Inyo co., March 25, 50c	May 1	May 28*
Sierra Nevada, Storey co., March 15, $3	April 17	May 3
Sierra, Douglass co., Nev., March 25, 58	April 28	May 14
Troy Ledge, White Pine, March 16, 15c	April 23	May 24*
White Pine Mutual	Annual Meeting May 3	
White Pine Water, Lander co.,	April 14, $50	May 22 June 19
Williamanitic, White Pine	Annual Meeting May 18*	
Williamantic, White Pine, March 22, $1	April 24	May 12
Virginia Cons., Storey co., April 14, $1.50	May 19	June 5
Virginia & G. H. Water Co., Dividend, payable April 16, 1869		
Yellow Jacket, div., $5	Payable March 15, 1869	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

BD. F. STOCK AND EXCHANGE BOARD

FRIDAY EVENING, April 30, 1869.

	Bid.	*Asked.*
MISCELLANEOUS STOCKS.		
United States Bonds, 5 20s, 1865, '67, '68	$ 86	87
United States Bonds, 5 20s, 1864	87	88
United States Bonds, 5-20s, 1862	88	89
Legal Tender Notes	75	75¾
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	83	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1864	par & int.	
San Francisco City and Co. Sch'l Bds, 7s, 1866	—	90
San Francisco City and Co. Bonds, 7s, 1862	—	90
San Francisco City and Co. Bonds, 7s, 1864	—	90
San Francisco City and Co. Bonds, 7s, 1865	—	90
San Francisco City and Co. Judg. Bds. 7s, 1863	—	90
San Francisco City and Co. Judg. Bds. 7s, 1864	—	90
Sacramento City Bonds	30	—
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	80	—
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds 7s	75	80
California Steam Navigation Co	—	68
Spring Valley Water Co	66⅝	66¾
State Telegraph Co	26	—
GAS COMPANIES.		
San Francisco Gas Co	76	—
Sacramento Gas Co	52	53
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	72½	—
Central Railroad	50	—
North Beach and Mission Railroad	72	73
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	160
INSURANCE COMPANIES.		
People's Insurance Company	100	—
Firemans' Fund Insurance Co	98	100
Pacific Insurance Co	122	123
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	100	101
Home Mutual Insurance Co	193½	20
Occidental Insurance Co	85	90
MINING STOCKS—WASHOE DISTRICT.		
Alpha	40	41
Baltimore American	—	—
Belcher	22½	23
Bullion, G. H.	27	—
Crown Point	66½	67
Cole (Va.)	10	—
Confidence	37	38
Consolidated Virginia	9	10
Chollar-Potosi	243	245
Caney	34⅜	35¼
Exchequer	16	30
Empire Mill and Mining Co	54	65
Gould & Curry	122	123
Gold Hill Quartz	80	89
Hale & Norcross	151	152
Imperial	76	77
Julia	4¼	10
Justice and Independent	—	7
Kentuck	259	260
Lady Bryan	13	14
American	56	56¾
Occidental	26½	27
Ophir	33	33¼
Overman	90	—
Segregated Belcher	8¾	10
Savage	89¾	90
Sierra Nevada	53	54
Union	—	—
United States	—	—
Yellow Jacket	63¾	65
MISCELLANEOUS MINING STOCKS.		
Amador (California)	275	290
Aurora, White Pine	15	20
Eureka, (California)	230	237½
Golden Chariot (Idaho)	40	49
Silver Cord (Idaho)	10	—
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocotillo, White Pine	15	20

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, April 30, 1869.

Flour, Extra, ₱ bbl	$ 6 75	@	$ 8 25
Do. Superfine	4 25	@	4 50
Corn Meal, ₱ 100 lbs	2 00	@	2 25
Wheat, ₱ 100 lbs	1 25	@	1 50
Oats, ₱ 100 lbs	1 00	@	1 00
Barley, ₱ 100 lbs	1 50	@	1 85
Beans, ₱ 100 lbs	6 00	@	7 00
Potatoes, ₱ 100 lbs	50	@	75
Hay, ₱ ton	9 00	@	15 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	11	@	12
Sheep, on foot	3 00	@	3 25
Hogs, on foot, ₱ lb	5	@	7
Hogs, dressed, ₱ lb	9	@	10
GROCERIES, ETC.			
Sugar, crushed, ₱ lb	—	@	17¾
Do. China	10	@	12
Coffee, Costa Rica, ₱ lb	19	@	20
Do. Rio	18	@	18¾
Tea, Japan, ₱ lb	75	@	90
Do. Green	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	10
China Rice, ₱ lb	6	@	7
Coal Oil, ₱ gallon	—	@	43
Candles, ₱ lb	16	@	18
Ranch Butter, ₱ lb	35	@	36
Isthmus Butter, ₱ lb	33	@	36
Cheese, California, ₱ lb	15	@	18
Eggs, ₱ dozen	40	@	45
Lard, ₱ lb	15	@	16
Ham and Bacon, ₱ lb	14	@	15
Shoulders, ₱ lb	7	@	8
Retail Prices.			
Butter, California, fresh, ₱ lb	46	@	60
do. pickled, ₱ lb	30	@	—
do. Oregon, ₱ lb	20	@	25
do. New York, ₱ lb	35	@	45
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	55	@	60
Lard, ₱ lb	16	@	18
Hams and Bacon, ₱ lb	23	@	25
Cranberries, ₱ gallon	1 00	@	1 25
Potatoes, ₱ lb	1¾	@	2
Potatoes, Sweet, ₱ lb	3	@	5
Onions, ₱ lb	3	@	—
Onions, ₱ lb	3	@	—
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	10	@	12
Peaches, dried, ₱ lb	10	@	12
Oranges, ₱ dozen	75	@	—
Lemons, ₱ dozen	50	@	75
Chickens, apiece	75	@	1 00
Turkeys, ₱ lb	30	@	35
Soap, Pale and C. O.	7	@	12
Soap, Castile, ₱ lb	20	@	22½

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, April 30, 1869.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1¾c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@2¼c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.

Scotch and English Pig Iron	$45 00	@	$46 00
White Pig ₱ ton	36 00	@	37 00
Refined Bar, bad assortment ₱ lb	— 03	@	— —
Refined Bar, good assortment, ₱ lb	— 04	@	— —
Boiler, No. 1 to 4	— 04½	@	— —
Plate, No. 5 to 9	— —	@	— 04¼
Sheet, No. 10 to 13	— 04½	@	— 5
Sheet, No. 14 to 20	— 05	@	— 5¼
Sheet, No. 24 to 27	— 05	@	— 6½

COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	—	@	— 26
Sheathing, Yellow	— 20	@	— 21
Sheathing, Old Yellow	— 10	@	— 11
Bolts	— 21	@	— 22
Composition Nails	— 21	@	— 22

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@	— —
Plates, I C Charcoal	— —	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs, ₱ lb	— —	@	— 35
STEEL.—English Cast Steel, ₱ lb	— —	@	— 15
QUICKSILVER.—₱ lb	— 55	@	— 60
LEAD.—Pig, ₱ lb	— 7½	@	— 8
SHOT	— —	@	— —
Pipe	— 11	@	— —
Bar	— 9	@	— 9¾
ZINC.—Sheets, ₱ lb	— 10½	@	— 11
BORAX.—California, ₱ lb	— 35	@	— 38

JUSTICE TO THE JESUITS.—Although the Jesuits were at different times expelled from all the courts of Europe, for alleged political malpractices, it must be admitted that they rendered one great service to mankind. They discovered the medicinal properties of the famous Bark that has so long borne their name, and which is now one of the most potent ingredients of the celebrated PLANTATION BITTERS, the most popular tonic of modern times. Of this wonderful vegetable product, now known as Calisaya Bark, Messrs. P. H. Drake & Co., the proprietors of the Bitters, are the largest importers on this continent. It contributes materially to the efficacy of the best invigorant and anti-bilious preparation ever concocted, and in association with various other botanical tonics and alteratives, and with pure St. Croix Rum, is accomplishing such cures of dyspepsia, liver complaint, periodical fevers, constitutional feebleness, &c., &c. *_*

PIONEER LAND AND LOAN ASSOCIATION.—CAPITAL $1,000,000—INCORPORATED FOR 50 YEARS. This new incorporation is under thoroughly responsible management, and offers greater inducements for the legitimate investment of money than any other Association in the State. Books, with prospectus, can be obtained at the office of the Company, 304 Montgomery street. The President is Fred MacCrellish, Esq., and the Secretary, J. C. Duncan. An interest of 1 per cent. per month is allowed, and also half-yearly division of profits, which will doubtless be large. *_*

AMERICAN MACHINERY IN BRAZIL.—In consequence of our high prices, Brazilians, anxious to buy American machinery, have found it profitable to send an American sample to France or England, and get machines made there after these American models, cheaper than we can make them.

LEAD pencil marks on zinc, will last longer, when exposed to the water, than the same marks on anything else. Hence the superiority of zinc for tree labels.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

TARSHISH.—From the *Miner*, April 17th: The agent of the Tarshish property has sent to San Francisco two parcels of ore, first and third class, to be worked by the Paul & Wood dry amalgamation process as a test. * * We have news by private letter that operations will be at once resumed on the mine, and that reduction works will be put up during the season.

M. C. MILL.—Work is progressing rapidly on the flume, and on the inside rigging of this mill. It is believed that two weeks more of favorable weather will enable them to set the quartz grinders in motion.

AMADOR COUNTY.

VOLCANO.—*Ledger*, April 24th: Mining just now is very brisk. On the flat a number of companies are at work, and the claims are paying well.

ANACONDA—PINE GROVE.—On Monday we visited this mine, and were highly gratified at what we saw. The shaft is covered with a large and convenient building, well lighted, and kept as neat as a sitting room. The engine is a powerful one, and as noiseless as a sewing machine. The shaft is down 170 feet, and they are taking out excellent rock—some that we looked at was thickly studded with gold. The yield of sulphurets is large.

SOROCCO.—This mine, between Pine Grove and Volcano, is now paying handsomely. We learn that it is the intention to sink 100 feet deeper.

CALAVERAS COUNTY.

UNION.—*Chronicle*, April 24th: Peters, Champion & Ahnert, engaged in removing the water from the old Union shaft diggings, are progressing rapidly. The water has already been reduced to the top of the old levels. The company calculate to have the mine free of water in a month.

Smith & Co. have purchased the old Red Bird mill, Chili Gulch, and are moving it on to their quartz lead in Jackass Gulch. The battery consists of five stamps, and is intended for prospecting.

RAILROAD FLAT.—Work is steadily progressing on all the claims. The machinery is being transferred to the main shaft of the Petticoat. As soon as the removal is completed, operations will be resumed. From Washington Flat, San Andreas, and Angels, we are in receipt of favorable intelligence. In Lower Rich Gulch, Alexander & Co. have got their mine in splendid order. The steam hoisting works of the Palomo are rapidly approaching completion. Gravel mining is being vigorously prosecuted. Brackett & Co., Shaw, Hatfield & Co., Paul & Co., and many others are doing well. The sale of gold dust in this town from gravel claims alone, averages about $16,000 per week.

INYO COUNTY.

CERRO GORDO.—Sacramento *Reporter*, April 16th: A letter from these mines says that from two to three tons of lead and silver bars, worth from $300 to $500 per ton, are produced every 24 hours by the smelting works of Belshaw & Co. The ore is from the Union, the Ygnacio, Belmont, and San Lucas mines. The writer says that a large amount of bullion has been shipped from these mines, of which no mention is made in the papers. He thinks the reason is that the men who own the only smelting works there are fearful of competition.

LOS ANGELES COUNTY.

SOLEDAD.—Los Angeles *News*, April 24th: Dr. Colombo reports that the Enterprise mill is crushing the rock from the Rattlesnake mine, with favorable results. The Doctor made a contract with the mill for hauling and crushing 300 tons of the Champion rock at $15 per ton. They have a large amount of first class ore ready for crushing, and are mining night and day. It assays upwards of $50 per ton, and the vein is 4 feet 8 inches wide, and the ore easily extracted. The Eureka is down about 120 feet, with very rich rock, three feet wide. Polk & Kabler are getting out $35 rock faster than they can crush it with a ten stamp mill.

MARIPOSA COUNTY.

MYLAR LODE.—*Gazette*, April 23d: This quartz vein, situated near Pine Creek, three or four miles from Granite Springs, is being worked by Messrs. Bowen & Bennett. They are crushing rock that pays them fair wages above expenses.

BUCHANAN.—Stockton *Gazette*, April 10th: Hughes & Keyes shipped eleven tons of Buchanan mine copper to-day on the schooner Maggie Robinson.

MENDOCINO COUNTY.

Ukiah *Herald*, April 9th: Yesterday we were shown a prospect obtained from a single pan of earth, in which 20 fine particles of gold were visible. We were told that some six or eight pans were washed out with similar results. There are two gulches from which these prospects are obtained, within three or four miles of Ukiah, in the mountains east of the valley.

NEVADA COUNTY.

NORTH STAR.—Grass Valley *Union*, April 21st: We yesterday heard that the North Star Co. were taking out some very rich rock, and went down to take a look. The rumor was not exaggerated. At the end of the drift in the sixth level the ledge shows beautifully in gold, running in seams, while between are heavy sulphurets of great richness. This is in the western extension and about 600 feet from the shaft, in the ground lately purchased by the Co. In the stope, from which the rock we saw came, the sight is a glorious one, the whole thickness of the ledge being interspersed with gold. The ledge nearest the foot wall is excessively rich for about six inches in thickness, and the rock is of dark color, the rest of the ledge, of a thickness of from eighteen inches to two feet, is lighter, with gold plainly visible. This rock, as far as can be seen, continues thus rich.

BLOOMFIELD AND GRANITEVILLE correspondence:—The North Bloomfield Co. are now running 1,300 inches of water through their 30-mile ditch. The water will be increased to 2,500 inches as soon as the banks become firm. At the Co's mines are eight pipes in operation day and night. At Relief Hill, three miles distant, the Eureka cleaned up last week. At Graniteville, quartz mining is a little dull. The "Jim Crack," or "Erie Company" have suspended operations, on account of water in their shaft. As soon as the roads will admit, the Co. intend procuring a pump. Their rock pays them well, and they have a fine ten stamp mill directly over the mine. The Birchville mill is running, and is amply repaying the owners for running their long tunnel. The Black & Young mill is running on the Banbury & Stacy rock, which has paid well from the first run. Capt. Erwin has recently purchased the interest held by Banbury, and the mine will be worked with a full force. The Norfolk Shaft Co. have suspended on account of water, their pump being too small; but that will be replaced with heavier machinery, and the mine will go ahead. Some of this rock shows plentifully in free gold.

EUREKA.—Same of 22d: The shipment yesterday was valued in round numbers at $23,000, and does not include the gold contained in the sulphurets.

UNION HILL MINE.—The engine shaft has attained the depth of 260 feet, and preparations are being made to commence drifting. There are about forty men employed underground. The ledge throughout averaged about three feet, and looks well. The Co. have sufficient rock to last twelve months, without the 100 feet recently sunk through profitable ground. They are now,—says Capt. Faull,—"crushing 30 tons rock per day, worth $12 per ton.—$360; this multiplied by 24 days in a month, will make, say, $8,640. Working expenses, say $4,000. For material to work the mine, say $2,000—add working cost $4,000, will make total expense $6,000, against $8,640 returned, thus leaving a profit of $2,640.

ALLISON RANCH.—Same of 23d: The mill has been running eight stamps for the last ten days on the rock from the old waste pile. On Wednesday the pumps in the south shaft were started, and will be kept working constantly. The mine will soon be drained.

The Wisconsin mine has been pumped out, and this summer the ground will be thoroughly prospected.

Grass Valley *National*, April 20th: In the North Star, over $1,000 was taken out to-day in specimen rock. The ore comes from what is known as the Edmonton ground.

RICH DIGGINGS ON SCADDEN FLAT.—A ledge of decomposed quartz has been found, which, in the language of our informant, Thomas Scadden, "is perfectly lousy with gold." The ledge is from four to eight inches in width. The dirt, besides the rock, prospects from 50 cents to $1.50 to the pan.

HIGGINS.—Same of 21st: This mine, leased and worked by Frank Morse, continues to do well. They are down 160 feet and still sinking. The first level, 75 feet, is open 100 feet each way, and on the second level they have drifted 90 feet south and 60 feet north. The ledge shows a width of three feet. The hoisting, pumping, and crushing are done by water. The mill, eight stamps, turns out $1,500 every six days.

HOPE GRAVEL MINE.—Same of 22d: The new shaft has been sunk 140 feet, and will strike the lead at 90 more. Men are putting up the pumping machinery. There will be two 11-inch pumps, driven by an engine of 12-inch cylinder, with a 14-foot fly-wheel. Pay dirt will be taken out by June 1st.

ALLISON RANCH.—John Dennin & Co., working on a contract, have crushed 70 tons of rock from the old dump-pile of the Allison Ranch mine, and obtained 40 ounces of gold, worth $17.50 per ounce.

NORTH STAR.—Same, 23d: J. H. Crossman, Superintendent, informs us that yesterday the ledge in the Edmonton ground was stripped, and to-day they are taking it up. It proves even richer than reported. The rock is literally studded with gold.

Transcript, April 22d: Cozzens & Co., on the Little York ridge, are working four sets of hydraulic claims, and doing remarkably well. The claims above them on the same range are also yielding handsomely. Mr. Barber, the owner of the Mohawk mine, arrived in this city yesterday, and will start up the works soon. He proposes to sink 70 feet deeper upon the ledge. This mine is located on Gold Flat, and has yielded some very rich rock.

GIANT POWDER.—Some 20 to 30 miners left the Banner mine yesterday, or were discharged, because they refused to use Giant Powder in blasting.

BUCKEYE.—Same of 23d: These claims, on the banks of Greenhorn Creek, opposite Hunt's Hill, are yielding handsomely. The owners are running three pipes and are getting better returns than for years.

KANSAS MINING CO.—Same, 24th: This Co. last fall put on the ground a 15-horse engine, a 6-inch Cornish pump, and the most complete prospecting works in the country. They sunk an incline 500 feet, when they became satisfied that they were too high. After going 50 feet below the bed rock, a tunnel was commenced at the bottom of the incline, which has been run a distance of 200 feet toward the ridge, and they have now struck into boulder ground, which is considered a first rate indication of a channel.

MANZANITA.—*Gazette*, 22d: We visited these claims, owned by Marselus & Maltman, yesterday. The owners employ 22 men, and use 700 inches of water. Three pipes are used, the largest having a four and a quarter inch nozzle, and the others three inch nozzles. The ground will last for years.

OMEGA.—Same of 24th:—A gentleman who came down yesterday informs us that times are quite lively, and the miners both at Omega and Diamond creek are carrying on operations upon a larger scale than for many years. Twenty men are employed at the Prescott hydraulic claims; six in the Horn & Jones claims; Dr. Temple employs eight to ten men; Bowman seven, and the Cannon brothers three or four. Cal. Kirtley and Van Wyke, at Diamond creek, each employ five men. Kirtley made a partial clean up on Thursday, after fifteen days' run, and took out 92 ounces of retorted gold. None of the other companies will clean up until the close of the season.

Quartz mining has also been quite active for some time past. The mill of the Salathiel Co. has been for some time crushing rock from the Tecumseh ledge, which is said to have paid well. The Salathiel ledge is looking well, though work had to be suspended during the late storm. The Comanche, owned by John Dill and others, is looking finely, and turning out large quantities of first-class ore. The work is also progressing on the Fidelity and Enterprise ledges, with good prospects.

PLACER COUNTY.

COLFAX.—Auburn *Herald*, April 24th: "Our mining prospects are more encouraging than at any former period. A few days ago I saw in the hands of Wm. Gillis some of the richest specimens of quartz yet found in this section. I was at a loss as to which predominated, the quartz or gold. The ledge is 1½ miles from Colfax. The extensions on both ends have been located and their owners are at work. The 'Rising Sun' has found richer rock and a better defined ledge in their lower level running east. The 'Colfax' adjoining, have commenced work. They intend to take out a quantity of rock and have it tested by mill process. The Lafayette Co., on the same ledge east, have commenced work in earnest. The controlling interest has fallen into the hands of Bill Hamilton, of the Telegraph stage line. The Montana Co. are soon to erect hoisting works and a mill. The 'Live Oak' claim, four miles below Colfax, has been purchased by Messrs. Egbert & Hodgsden, who possess the means to work it in shape. The ledge has improved both in size and richness. The 'Eureka Co.' has again commenced operations. Their claims are one mile northwest of town. Considerable work had been done last fall. A shaft was sunk to the depth of 75 feet. Work was temporarily suspended, for some cause, a short time ago."

Stars and Stripes, April 22d: A boy, while playing on the bank of Auburn ravine, near Steinley's brewery, last Monday, picked up a piece of gold worth $5 75. The late rains have laid bare the bedrock in many places.

SIERRA COUNTY.

NED LEONARD LEDGE.—Downieville *Messenger*, April 24th: The one hundred tons of rock, the crushing of which has just been completed at the Gold Bluff mill, yielded 83 ounces of bullion. Leonard has been running a lower tunnel, and expects to tap the vein in a few days.

GOLD BLUFF.—The company have completed their air shaft, and are prepared to take out rock for crushing. The want of ventilation has heretofore embarrassed them. The shaft they have raised is about two hundred feet, opening into the workings above.

Forrest City correspondence of same: "Business is still dull. Over the ridge, in Alleghany, they are more hopeful, having, as report says, struck good pay in several of the mines lately."

SISKIYOU COUNTY.

KNAPP—ON HUMBUG.—Yreka *Union*, April 17th: The owners of the ledge had forty-eight tons of rock crushed this week at the Sucker Creek mill, which yielded $2,800, being nearly $60 per ton.

ORO FINO.—We understand that a company is prospecting a quartz ledge. If it holds out as well as it prospects at the surface a mill will be erected this summer. The scarcity of water is everywhere turning the attention of miners to quartz.

Messrs. Spidell, Horsely & Co. are erecting an arastra on French Creek to prospect a ledge recently found. The arastras will be run by water power.

ON THE KLAMATH.—We learn from R. Humphrey that considerable money is being taken out along the Klamath.

SAN BERNARDINO COUNTY.

TEMESCAL.—Los Angeles *News*, April 24th: The shaft is down over over hundred feet perpendicular, and the drift is being pushed southwest on the vein, which looks well; and they are also drifting northeast with good prospects. The formation of the country is the same as that at Cornwall, and the best ore assays from 45 to 50 per cent. per ton. There are about thirty-five good Cornish miners at work. The company intend erecting extensive works as soon as the law suit shall be decided.

YUBA COUNTY.

PENNSYLVANIA.—Marysville *Appeal*, April 24th: Some unexpected difficulty occurred while putting down the new 12-inch pump, and a second one was necessary to ascertain the cause. This consumed considerable time, during which the mine filled up considerably with water. At last accounts the second pump was laboring to drain the shaft. The hopeful expect the matter will be all right in due time.

COLORADO.

CHICAGO CREEK MINES.—Central City *Register*, March 25th: We visited this locality last week. The Pulaski has been opened to a depth of ten or twelve feet, and shows a crevice between walls at least four feet in width. The outcrop is large and strongly marked for a considerable distance along the surface. The next lode that we visited was the Chemung County. At the discovery was a shaft some twenty feet deep. They have several tons of ore out, some of which looks rich. Near this lode is one recently opened, called the C. P. R., with which we were not favorably impressed. It is a large vein, but has not yet produced any rich looking ore. About half a mile west is the Grant, a wide, strong vein, the outcrop resembling that of the Pulaski, of which it is an extension. The shaft is twelve feet deep, and has produced fine-looking ore. We next visited the Tiger lode. It shows a well-defined vein, three feet in width. The Charter Oak lode has one shaft on the discovery claim some twelve feet deep. The pay vein has varied from twelve to eighteen inches in width from the surface down. The ore is principally sulphide of silver. It has assayed as high as $385 coin, per ton, from a five-pound sample taken for an average. About 100 feet west, is the Tribune, by many thought to be the same vein. Messrs. Thorn and Bangs are now raising a quantity of ore from each, to be shipped to Newark, N. J., for reduction. Cameron and Moore are sinking on a load about half a mile west, supposed to be on the same vein. At the head of Magnet Gulch, one-and-a-half miles from the Charter Oak, is the Silver Bluff lode, said to be one of the best in the

district. The Silver Cup, the Jersey, and the Big Ute, are said to promise well.

Yesterday we saw a bar of silver bullion weighing about 32 ozs., taken from a small lot of Circassian ore by Dr. Blatchley in his new pan. It was over 900 fine....Mr. Salisbury is meeting with success in his development of the Mollier property on the Mammoth. The ore is constantly growing richer.

The arrival of a monster slab of silver—they call it a *button*—from Georgetown, by express, attracted many visitors last evening. Its Troy weight is 532 lbs., currency value $10,200, and it is the gross yield of 29 tons of ore from the Coin and Brown lodes.

PIERCE LODE.—Same of April 8th: Messrs. Remine, Elliott & Pierce own 800 feet on the lode, and have six shafts, the deepest of which is 260 feet. The discovery shaft is sixty feet deep and shows a crevice sixteen feet in width, with solid, regular walls from top to bottom. There is a large quantity of surface ore in sight, which yields, under stamp, six ounces of gold per cord. A small lot has recently been crushed. They are now raising from the deepest shaft, nine to to twelve cords of ore per week, which runs under stamps eight ounces gold per cord, tho whole width of the crevice being crushed together. Selected ore will run as high as fifteen ounces per cord. The improvements on this mine have cost some $30,000, all of which has been made out of the mine as they went along.

STOUGHTON LODE—WARD DISTRICT.—A lot or three hundred pounds was recently crushed and sampled, which gave a yield of eight and a half ounces gold per ton.

BAKER MINE.—This is said to be turning out more ore than ever. The company will put up roasting furnaces in the Spring.

THE VETO—GILSON'S GULCH.—This new silver lode is being worked with great success. An assay of selected ore gave $1,089.01 per ton of two thousand pounds. It has a vein of paying ore from six to twelve inches wide. The assays on which the different lots of ore has been sold have been as follows: $568.62, $412.02, $349.45 and $439.66 per ton of 2,000 pounds.

THE "TERRIBLE."—Georgetown correspondence: The shaft is 185 feet deep. The company employ thirty men, and are raising about three tons of first class, and thirty-six tons of second class ore every week. The first class ore yields on an average $550 per ton. The second class is piled up near the mine there to remain until dressing works are erected. All the first class ore is hand-dressed and crushed at the mine, put up in canvas sacks, 105 pounds in each, and shipped to Newark, N. J., for reduction.

CLEAR CREEK.—*Herald*, April 7th: All the old Creek and Bar mines are being worked. The Wright Clanfield claims open out well; three men taking out six ounces in three days. Mixer & Schwartz, on Illinois Bar, took out six ounces, working two men three days. Dr. Mead is working on Chicago bar. Maj. Conner is taking out pay on Spanish Bar. C. C. Bangs has two tons of rich silver ore, from his lode on the head of Chicago Creek, sacked and ready for shipment to the Smelting works in New Jersey. They are finding native silver in the Silver Bluff lode (same locality) at the depth of 30 feet.

Parties working on the Jones claim, on the California or Hidden Treasure lode, have found good pay. The ore is now yielding 8 ounces per ton, and is improving.

WILSON & CASS CO., GEORGETOWN.—This Co. is working on the old Griffith lode, and has found a large body of rich ore. The vein is continuous from the top to the bottom of the shaft—now 100 feet deep—and is over one foot and a half thick. The ore is a heavy galena mixed with brittle silver, and contains from three to seven hundred dollars in silver per ton. Between five and seven hundred tons of ore is now lying at the mine, waiting treatment in the new reduction works, which will be completed as soon as possible.

THE BURLEIGH TUNNEL.—Georgetown *Miner*, April 1st: This enterprise is looked upon as of greater importance to the mining interests of Colarado than any other ever projected. At the present time the advance is two feet per day. The blasting is done by electric fuse and battery, and the drills are driven by compressed air. On Monday last, while we were present, the last hole in the heading necessary to complete the number for the blast, was drilled 32 inches in depth in seven minutes.

IDAHO.

Owyhee *Avalanche*, April 17th: The Rising Star Mill at Flint has suspended operations, and the Superintendent gone below. Scarcity of ore is alleged as the cause of suspension. Men are at work in the mine.

Owing to the state of the road to the mines, the Ida Elmoro and New York mills have shut down for a few days, but it will not be long before the ore will commence coming down the mountain again.

Idaho City *World*, April 8th: The scarcity of water still retards general mining operations in this district and in the basin generally. There never has been a season of such thorough preparation for big mining, and it only requires an unusual supply of water to start in the work; but the prospects, we regret to say, are not favorable for a fair season to the miners.

Silver City *Tidal Wave*, April 20th: The Baxter mine has out about sixty tons of ore, taken from the shaft and drift. They will make a crushing in the Sinker mill as soon as the road opens....An increased force of men will be put on the Baxter mine soon ...The Oro Fino grade, which was nearly free from snow last week, is drifted full again.

MONTANA.

Helena *News Letter*: Immense quantities of pay dirt were drifted out on Bear Creek, 100 miles southwest of Helena, during the winter, and the working season will open there more lively than ever before....Two companies are now working on the "Lone Man" lode, McClellan Gulch, both highly flattered with the indications....$1,100, gold, was paid Thursday for a half interest in a claim at the head of Ten-Mile Creek. The Lindsley Mining Co. are operating 10 or 12 miles below. The entire creek—supposed to be generally rich on bedrock—will be protected the coming summer.

MOOSE CREEK.—A letter has been received by James Thompson, of Deer Lodge City, stating that new and rich diggings have been discovered on Moose Creek, miners having made during the winter from $50 to $100 a day with rockers. A number of letters confirming this had been received at Missoula Mills. These placers must be in northwestern Montana, or just over the line in Idaho, about 300 miles from here.

NEVADA.

HUMBOLDT.

WINNEMUCCA.—*Register*, April 17th: L. D. Webb, Major Starling and others are organizing a company for the purpose of running a tunnel into the center of Winnemucca mountain. The portion of the mountain through which the proposed tunnel will run is a perfect network of mineral veins, varying from one to four inches in width, and all rich. It has long been the opinion of miners that these small veins are merely feeders leading to one or two large ones near the center of the mountain.

ECHO DISTRICT.—Prospecting parties are engaged six or eight miles from Unionville. Persons having old locations, abandoned two or three years ago, have renewed their claims, established their boundaries, and gone to work with renewed energy. The railroad runs alongside of this district, and affords cheap transportation of ores to the Truckee or California. We understand that the Alpha Co. has ore shipped to the Truckee for $6 per ton.

GOLCONDA STATION.—M. Meador informs us that the Negus mill has been running for a few days on tailings with excellent results, the yield being better than that obtained from first working. The ores of this district are refractory; but if tailings are permitted to remain exposed to the atmosphere, chemical changes take place which render amalgamation comparatively easy. Mr. Negus shipped this week 1,640 ounces of bullion, the result of a short run on tailings.

The Arizona and the Silver Mining Companies have made new arrangements beneficial to both. Communication will be opened between the mines for ventilating purposes, and the Silver Mining Co. will have the privilege of using the shaft and track of the Arizona for getting ore to the surface.

EL DORADO DISTRICT.—Morrison and Lambing have been developing the Corinth ledge. The ledge is 12 feet wide, and crops out boldly for 1,000 feet. From tests made, it is supposed that the ore will average $40 per ton.

REESE RIVER.

Austin *Reveille*, April 20th: During the week ending Saturday, the 17th instant, the Manhattan mill in this city produced 32,300 ounces of bullion.

FINE ORE FROM LANDER.—Same of 22d: Stopping for a few minutes last evening at the Manhattan mill we were shown lots of wonderful ore from several mines of Landen hill. That produced by the Magnolia was a noble sulphuret ore, much of it having the warm tint of ruby, and brilliant faces of copper pyrites resulting from the abundant silver fahlerz. The Troy is producing equally valuable ore, as is also the Florida. These mines lie in a group, and their remarkably rich ores are identical in appearance and composition. Perhaps the mines of the Lane and Fuller Co. are producing the richest and purest sulphuret ores of any in Lander Hill. The splendid developments in the Buel North Star are marvelous in the extent of the body of ore uncovered no less than its superior quality. We were told that some five tons of its first class ore, just reduced at the mill, had yielded a pulp assay of about $1,025 of silver to the ton. The great body of ore uncovered in the Buel North Star has been estimated at a quarter of a million dollars. Good work is doing in a number of other mines in Lander Hill, as well as by two important companies at Yankee Blade, and the general prospects of the mines in this district are highly encouraging.

MAMMOTH DISTRICT.—Same of 21st: We have been presented with two specimens of ore from the Lisbon claim. They are fine chloride of silver, equal to anything from White Pine. The claim is two miles south of the Marble Falls ledge.

PEORIA DISTRICT.—Belmont *Champion*, April 17th:—Up to the present time upwards of 40 different ledges have been located. The ledges are large and well defined, and the ore assays all the way from $43 to $1,500 per ton. An average of the ore from the Champion mine yielded $165 per ton, and that of the Mammoth $108 per ton; assays from the Summit mine gave a yield of $1,500 per ton; Illinois ore assays $350 per ton; assays of ore from the White Cloud ledge shows a value of $659 per ton. The principal work in the district has been performed upon the Champion, Mammoth, Peoria and Summit claims, all of which bear evidence of being true fissure veins.

EL DORADO SOUTH.—Work progresses steadily upon Leon & Co's El Dorado South mine, and ore of the highest grade is daily added to the already large supply on their dumps.

REVEILLE DISTRICT.—We are informed that the population of Reveille continues to increase rapidly, and that work is prosecuted vigorously throughout the district.

WILL START UP.—The Belmont Co's mill will probably start up during the coming week.

WASHOE.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

HALE & NORCROSS.—*Enterprise*, April 20th:—The Co. now have ore everywhere, from the very bottom of the mine up to the second level, and can take it out in almost unlimited quantities. The yield of the mine for next month will probably be greater than for any month since the opening of the mine, and we see no reason why there should be any falling off for many months. The air in the lower level is now excellent.

SIERRA NEVADA.—Same of 21st: The ore in the surface opening of the Sierra Nevada is increasing in richness as it is followed westward, also in drifting upon it to the northward. The mill is being run up to its full capacity night and day. A handsome yield may be expected from the next clean up.

FLOWERY LEAD.—The Flowery lead continues to yield a large amount of excellent ore from both the shaft and incline. The mill is kept in constant operation.

PINE GROVE MINES.—Same of 22d: A new and valuable lead has been discovered called the Dolores, situated five miles south of the town of Pine Grove. It presents the same appearance as did the Comstock on the surface, the ore being black sulphuret of silver and free gold. The pay streak as at present developed is about ten feet in width. The ore taken out assays from $500 to $3,000 per ton.

On the 19th a strike was made in the lower level of the Midas which promises to be of importance....The Wheeler Co. are taking out bullion to the value of $10,000 per month....The Wilson produces about the same amount.

OPHIR.—The Ophir Company are timbering and preparing for the rush of water which they expect to have in cutting their front ledge.

NO ORE.—Owing to the shutting down of three of the leading mines in Gold Hill, by the disaster, a number of mills are idle.

EUREKA.—This company (on what was formerly known as the Norton ledge, Cedar Hill,) are taking out some very good ore. The vein is narrow, but contains much rich rock.

GOULD & CURRY.—They are sinking a sump, or well, at the bottom of the shaft, preparatory to opening a station and drifting, for the purpose of opening a new level.

Same of 24th: The Lady Bryan Company shut down night before last. They find the hauling of ore to their mill (the Golden Eagle) at Dayton, too great, therefore will move the mill to a site on the cañon, just below the mine, before resuming operations.

BULLION SHIPMENT FOR THE WEEK.—During the past week Wells, Fargo & Co. have shipped from their office in this city 5,783 pounds of silver bars, worth $135,517 41, and during the same time the Pacific Union Company have shipped from their office 2,539 pounds of bullion, worth $63,726 41; making the total of 8,322 pounds in bricks, valued, according to assay, at $199,245 85.

IMPERIAL EMPIRE.—25th: In each of the working compartments of this shaft has been placed a fine new steel wire cable, and the work of development at the lower levels has progressed in a very satisfactory manner.

DOLORES.—A choice piece of rock from this lead showed in silver per ton $442 23, and in gold $2,222 84, making the total yield per ton $2,665 07.

LATEST FROM THE BURNING MINES.—Same of 25th, The fire in the Gold Hill mines still continues. The draft is now toward the Yellow Jacket, up the shaft of which a strong volume of smoke and gases continues to arise. How much longer this obstinate fire will continue smouldering among the charred timbers and fallen debris it is impossible to say; strong hopes are entertained that it will be completely extinguished within the next 48 hours, but we fear that it will rage much longer.

[Our White Pine summary will be found in another column.]

WYOMING.

CARIBO HILL.—*Sweetwater Mines*, April 7th: Messrs Boyd and Tompkins have just discovered a ledge that prospects extraordinarily well; at a depth of 10 feet, the width of the ledge is five feet. We have several specimens of ore from this new discovery that exhibit free gold. If this continues at any depth with the same richness, a large mill can be kept in motion from it alone. * * Roberts' claim has a shaft down 70 feet, and the vein looks healthy. We have specimens from the dump, which are full of gold.

The Willow Creek Mining Company began to sluice yesterday, and will make a run of two or three days before cleaning up....A contract has been let, and work is progressing on the Norfolk ledge....An extension of the Nellie Morgan ledge has been found and 600 feet located....Work has been resumed on the "Atlantic Cable." Mr. Ramsey informs us that it prospects well. This is a very large ledge.

ROCK CREEK.—We visited this locality a few day since. We will mention a few of the ledges, with the progress made: "Gold Hunter" shaft, down fifty feet, and width of vein two feet; "Mary Ellen" shaft, 25 feet and vein 15 inches, in some places three feet; "Calhoun" shaft, 30 feet and vein 18 inches. These are small ledges, as far as size is concerned, but huge things when their richness is considered. "Golden Leaf" shaft, forty feet with a vein of 20 inches. Henry Marshall is constructing an arastra above town to crush rock from the Buck-eye State. Dr. Sperry showed us some quartz from a ledge just discovered—it prospects well. Sage Miller and party are making arrangements to construct a 5-stamp mill to be run by water power.

MINING REPORT.—Ten thousand copies of Adolph Sutro's work on "The Mineral Resources of the United States, and the importance and necessity of inaugurating a rational system of mining, etc," are to be printed by order of Congress. Mr. Sutro is doing a good service for the mining interest in collecting facts and statistics, bearing upon his great tunnel project. The liberality with which Congress is spreading these facts before the people, shows the high appreciation in which his labors are held by the representatives of the mining interest in that body.

COPPER, between the middle of March and the first of April, declined from 26¼c. to 22⅞c. This depreciation was due to the failure of the speculators to pay for copper, bought for delivery at the end of March. Low as is the present figure, a still farther decline is anticipated, from the fact that large quantities are yet held by speculators, as above, who must fail to meet their engagements. This decline, instead of the expected advance by reason of the increased copper tariff, has sadly disappointed some of the Lake Superior operators.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, May 1, 1869.

Notices to Correspondents.

"T. C. M.," of Colorado, asks a series of questions which are answered as follows: Large stone arastras were used, to some extent, in the early days of California gold mining, before iron pans came into use.—An iron mining pan is simply an improved arastra.—The bed or bottom of an arastra is composed of numerous flat pieces of atone, laid in hydraulic cement. —Neither gold or quicksilver will pass through the bed of a well-built arastra. "The amount of power required to operate an arastra" depends upon the size and weight of the drag-stones, not upon the size of the arastra.—Arastras are generally constructed about five or six feet in diameter. An arastra of twenty feet diameter would be unnecessarily large; ten feet may be considered the outside limit of economy in size.—There was a patent taken out about a year ago by Mr. Seymour Hughes, of this city, for what might be called a "horizontal mill," in which the stamps were made to revolve in a sort of circular trough, the bottom of which consisted of a series of inclined planes. As the stamps revolved they were caused to pass up these inclined planes until they reached an elevation of about ten inches, when they fell upon a die, like stamps in ordinary use. This arrangement combined trituration with stamping. Although good reports reached us at the time, of its practical working, we have heard of only two mills having been constructed after this patent.—We do not know of any mill at present, which, "all things considered," is superior to the stamp mill for ordinary rock crushing.—We do not consider it economical to crush rock dry which "is intended for roasting, calcining or smelting." Dry crushing is slower than wet, and the cost of drying the pulp is less than the increased cost of dry over wet crushing.—There is less loss of gold in dry than in wet crushing, and when the pulp is to be subjected to a simple amalgamating process, in a pan or otherwise, it is thought by many that dry crushing is more economical than wet.—In dry crushing the rock must be fed into the battery dry.—Sodium amalgam is not in very general use on the Pacific Coast. It is employed, to a limited extent only, and mainly for amalgamating copper plates and for cleansing quicksilver. It is used by some, however, in ordinary amalgamation, to make the quicksilver more active.—Amalgamation with mercury is the only method of gold saving "in practical use" anywhere.—Whenever mercury is subjected to violent agitation, as in a quartz battery or pan, it *will* "flour." Sulphureted ores cause it to flour more than ores which do not contain sulphur.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

The Good Time Coming.

As the Pacific and Atlantic Railroad approaches completion, the tide of immigration to this coast appears to be setting in with a most extraordinary activity. Every mail from the East brings word of large preparations in all parts of the country for a wholesale stampede in this direction as soon as through travel is opened. The New York *Express*, in a late number, tells us that the exodus of farmers, mechanics and capitalists, this season, will exceed anything which has been seen since the days of '49 and '50. Thus it appears that this promises to be the most stirring of all the active years which the State has seen since the first advent of the gold-seekers. The inexhaustible resources of our agricultural productiveness, our unequalled mineral wealth, and the fame of our beautiful skies and delightful climate has reached the ears of countless thousands, not only in our less favored Eastern States, but throughout all Western Europe as well, from all of which regions the masses are taking up their line of march toward the rising empire of the West.

The completion of the great continental railroad appears to have been accepted as conclusive evidence of the reality of our high claims upon the attention of the labor and capital of the world. No farther questions are now asked; but all who desire to better their condition, and have the means of doing so, to the extent of a removal to these shores, are making preparations to come.

It is impossible for the coldest mind to contemplate, without a glow of exultation, the rapid growth which present signs, unmistakeably indicate, as being in early store for our adopted State. We can now look with the utmost confidence to the speedy filling up of our magnificent interior and coast-side valleys, to the establishment in our midst of large and flourishing manufactories in every department of industrial enterprise, and to a greatly increased impetus to mining operations throughout the entire western slope of the Rocky Mountains. The "howling wilderness" that until now, has stretched in almost unbroken continuity from the Missouri to the Sierras, will soon be dotted with towns and cities, that will ere long vie in enterprise, luxury and elegance, with the oldest centers of human industry in Eastern lands.

The sudden and unusual activity in railroad building, which is manifested everywhere throughout the "western slope," is an evidence that capital has become convinced that these are no vain imaginings; but that the most improved facilities for intercommunication are imperatively called for in advance of the arrival of the coming multitudes, the vanguard of which has already reached our shores.

The rich agricultural lands of the San Joaquin, upon both their eastern and western border, will soon be brought within a few hours' distance of San Francisco—miles are annihilated; time and cost are the only elements of distance now taken into account, in the creation of lauded values. In this valley, alone, are at least ten unoccupied million acres of the finest agricultural lands in the world, where all the cerals can be produced in the greatest abundance, and where the nuts and fruits of semi tropical climates may flourish in their highest perfection. Below that region, in the adjoining county of Los Angeles, the silkworm spins a more lustrous web, and longer and heavier than anywhere else in the world; and golden skies and pure, fresh air produce grapes and wines nowhere excelled, either in quantity or quality; while upon every side the choicest breeds of sheep and goats may find abundant pasture for the yield of the softest and most costly fabrics, with which to employ the busy fingers of the thousands of factory operatives who are beginning to swarm in the great manufacturing and commercial metropolis which is enveloping, in its extended embrace, the bays and headlands of the finest harbor in the world. The agricultural resources of our northern and Coast Range valleys are scarcely less notable than those of the San Joaquin.

Let the toiling and famishing thousands of the East come on. There is room enough and to spare, and work for them all—all who are willing to brave the perils of ocean or dust of continents, to make for themselves, on this western coast, a home which they will take pleasure and pride in bestowing as a rich legacy upon their children. The inducements held out are in nowise exaggerated, but will increase in importance and extent with the introduction of capital and the growth of population.

Railroad Progress.

The present is a season of unusual activity and enterprise in railroad construction in this State. We have now 466 miles of railroad in actual operation, within the limits of the State, only 138 of which are set down to the overland road. It is safe to predict that not less than 250 miles will be added to this aggregate during the present summer. We note progress in this direction as follows:

The special event just now occupying public attention is the expected junction of the Central Pacific and Union tracks, at Salt Lake. The place of junction was noted in our last issue; the time will be somewhere from the 5th to the 10th of May. There is some pretty heavy work to be done just at the completion, which is causing delay. There has been a very commendable spirit of rivalry recently developed between the two companies as to which could do the greatest day's work at track-laying. The Union Company first showed its hand and laid—some three or four weeks since—*seven* miles in one day. The Central Company postponed its great day's work until Wednesday last, and succeded on that day in laying a few feet over *ten* miles! This great feat was accomplished by the skillful maneuvering of an army of 8,500 men, and 800 horses, with all the locomotives (six in number) and car assistance which could be brought to bear on a single track, with turnouts. The work was done within ten hours' time. The grading, of course, was all previously prepared; but with the exception of the three miles which was hauled out by teams, and laid along the track, the day before, all the iron, ties, and fasteuings of every description was delivered to the work as wanted, on the day on which the track was laid. No army in battle array was ever more skillfully handled—and few have ever accomplished a more beneficial work.

The precise point of the terminal grounds of the Western and Southern roads in this city, have not yet been fully determined; but they will be somewhere in the Mission Bay. The Western Road will no doubt reach the city by a track crossing the Bay just north of Long's Landing, and thence, skirting along upon its western shore, come into the city by a cut through the Potrero Hill and near by and parallel to the South San Francisco Railroad. The Southern Road will come in over the San José track. Work upon the Western Pacific is still being pushed with commendable speed. This road will have one of its termini at Oakland Point. The engineers have been running a survey for their line through Oakland the past week.

Work on the South San Francisco Road is still being pushed at their deep cut on the Potrero; The grade there is being lowered ten feet, and work continued night and day.

The road from San Rafael to San Quentin is to be pushed forward to an early completion. The stock has nearly all been taken. A telegraphic order for the iron and rolling-stock was sent East on Monday of last week.

The great Yuba City Railroad bridge has been completed. This structure, spanning the river and overflowed land, is a mile and a quarter long. The track was laid upon the bridge last week.

The citizens of Woodland, in Yolo County, are rejoicing in the prospect of the arrival of the iron horse in that town some time in May.

The piles for the terminal depot of the California Pacific at South Vallejo, will be driven about the middle of May.

VIRGINIA AND TRUCKEE.—Although the original name of this corporation is retained, there is no present intention of making any connection with the Truckee. The Carson river is the immediate objective point; as such a connection is deemed of more pressing and important necessity, as it will cost less to secure wood and timber from that direction than the other, and more economical results can be obtained in the economy of the transportation and working of ore from the Comstock mine. About 500 men are now at work upon this road between Virginia and Carson; they are divided into seven gangs, three of which are engaged upon tunnels—one at American Flat and two at Gold Hill. An extension of this road along the base of the high land to the Central Pacific, near the mouth of the Truckee, will be only a matter of time.

Manufacturing Notes.

THE CHILE EXHIBITION BUILDING was, at the time of the departure from Valparaiso of the last coast steamer—March 15th—approaching completion, under the able direction of the contractor, Mr. Robinson, and as regards both the location and style of construction, it was pronounced admirably calculated to fulfill the purpose for which it was designed. The total space comprised within the building is said to be 16,675 square metres, of which 4,700 metres is under cover. Both England and France will be well represented, and the space provided for exhibitors will be fully occupied. Californian merchants and manufacturers are always too apt to be engrossed in local or epidemic excitements, somewhat on the principle of a mining stampede, which are in danger of educating our entire community into a disregard of the grand agricultural and commercial principle that in order to reap, we must first sow.

THE SHOEMAKER'S STRIKE in this city was sustained by about 500 men of that trade, who were accordingly, for the time being, out of employment. Six firms suspended work and have been seriously considering the practicability of employing Chinamen, some of whom are already engaged in the trade on their own account. The names of the associated firms are Kowalsky & Bros.; G. K. Porter; Buckingham & Hecht; Hobart & Co.; Marks, Calisher & Co., and the Pacific Tannery Boot and Shoe Company. The rates at which the workmen had been paid would enable them to make from $20 to $28 per week. They ask an advance of from 16 to 18 per cent.

EMPIRE SODA WORKS AT VALLEJO.—The editor of the *Recorder*, having visited the works of Mr. E. Gettigan says: "We were agreeably surprised to find his works so extensive and his machinery so perfect in all its parts." The very numerous natural soda water springs around the bay of San Francisco and elsewhere in California, possess large quantities of the sparkling carbonic acid which constitutes its characteristic and most valuable ingredient, but not sufficient to tickle the palate to the commercial standard; so that additional quantities have to be generated and bottled up in the water artificially.

EFFORTS TOWARD SILK MANUFACTURE.—Mr. Joseph Newman, of San José, has been traveling through the southern counties of California for the purpose of buying all the silk cocoons he could find fit for winding or spinning. The only place where he met with a lot of any importance, was in Santa Barbara, and he bought from A. Packard and J. E. Goux, their crops of 1867-8, amounting to three hundred thousand cocoons, which were shipped on the steamer Orizaba, Friday, April 16th. Subsequently Mr. Newman lectured to the people of Los Angeles on the subject of silk manufacture, pointing out the methods by which growers and manufacturers can be mutually and individually most benefited in the pursuit of this promising specialty of California's staple products.

The "Cal. Tar and Turpentine Manufacturing Co." have issued a prospectus, and divided their interests into 500 shares, which are sold at $50 each; the principal feature in the business being that they propose to manufacture, under a new and improved method—lately obtained from Swedea, where the system has been in successful operation for about two years, having the advantage of saving all side products—tar, turpentine and resin, together with their concomitant substances, pitch, charcoal, potash and wood acids, etc., etc., etc., for which the dease pine forests of our northern coast are so well adapted; and that they can successfully compete with all at present supplying the Hawaiian, China, Australian and Western South American markets. The Trustees are James Patterson, Peter Miller, Cole Deane, James Wilson, Ellis W. Moss.

Planing Mill, etc., at Oakland.—Burnham & Standeford's new planing mill, at the corner of Washington and First streets, Oakland—a large two story frame, with rustic exterior finishing and corrugated iron roof—was opened for orders about the first of last month, and contains all the ordinary ripping, sawing, planing, mortising and moulding machines of establishments of the kind. Smith's (of Smithville, N. J.) mortising inventions, and Rogers' sash and circular moulding machine may be seen in operation.

Machinery for the Cotton Mills.—The screw steamer Commodore has conveyed to San Antonio the remainder of the machinery for the Oakland Cotton Mills. It will be remembered that a short time since a vessel was wrecked with this machinery on board. All has been recovered. *Alameda Democrat, April 24th.*

Immense Manufacturing Capital.—The *Bulletin* a few days since mentioned a report that the Mission and the Pacific Woolen Mills had been purchased by a newly formed company with a capital of $5,000,000. It is said that the new company will not only greatly increase the amount, but also the (already very great) variety, of goods manufactured.

Wood Working Establishment at Vallejo.—The *Recorder* says: We are pleased to be able to announce that a gentleman of liberal means has made arrangements for the erection of a planing mill and sash factory, near the foot of Sonoma street, and that the mill will soon be put up.

Saw Mills at Santa Cruz.—The *Sentinel* says: W. W. Waddell's saw mill, twenty-five miles up the coast, is turning out an average of 17,000 feet of lumber per day. Last Monday George Anthony's mill sawed 2,000 feet. Farmer's mill-yard is full of lumber waiting for transportation, as is Ashley's. We have not learned of the quantity at Hicks', but suppose it is well supplied. Wadden's mill is not in operation

Oakland in a Manufacturing Light. The *Transcript* says: That Oakland is to be a large manufacturing city is the growing belief. Her facilities are superior to those of almost any locality in the State. Railroads will be built in a few years, connecting Oakland with the coal mines of Mount Diablo, from whence her supply of fuel must come. Quarries of building stone at the foot-hills will supply foundations for the manufactories which will find appropriate location in the long line of property from San Antonio creek to the Point, which is in the immediate vicinity of the water.

New Strikes in the Lead Region.—A fresh impulse has been given to lead mining in Iowa by a new strike, rivaling in richness the "Diving Bell." and "Old Tom Levins'" mines of the past. The sheet of mineral in the cap is described as being two feet thick, and the mineral showing over in all directions in black mud.

The Gold Hill Mines.—The latest report from the mines at Gold Hill report the fires as effectually extinguished. The shafts are open; but owing to the presence of large quantities of gases little can yet be done in the way of further exploration, either to recover the bodies still in the mines, or to ascertain the nature and extent of the damage done. The shaft in the Gould and Curry mine is now down 1,165 feet the deepest of any in the State.

Mineralogical and Geological Notices.

Mineral Characteristics of Durango, Mexico.—We find numerous interesting features in connection with the tin and silver mining district of Durango district, Mexico—lying 150 miles in the rear of Mazatlan. It has its Iron Mountain, a "tremendous mountain," 10,000 feet high, which, like the famous ones of Missouri, and of the Bothnian Gulf in Sweden, is "all iron." Some specimens from a batch on our table, brought to us by Mr. J. H. C. Bennett, an experienced miner, who has seen and studied that country intelligently, consist of red hematite, and specular iron beautifully crystallized as micaceous iron, the black surface of the crystals being sometimes curiously covered with a powdery brown oxide of tin. In parts, the oxides of iron and tin are so intermingled in the same specimen,—found near the iron mountain—that the crystals of micaceous iron seem to consist, at the base, of laminated wood tin. The iron mountain is described to us as a chimney of iron. An English company has iron furnaces, including a reverberatory puddling furnace and a rolling mill, at work there, which are supported by local demands for iron work, chiefly from the mines; but the ores are too infusible for making good castings, without first mixing Scotch pig; the smelters having at any rate had poor luck in casting in any other manner than with such costly mixture. Durango is 7,200 feet above the sea. A railroad is to be built. Freights to Mazatlan are three cents per pound.

The mineral district is in a whitish, highly silicious and argillaceous sandstone, (from denuded porphyries?) nearly as deposited, constituting the entire elevated country, underlaid by paleozoic slates contorted and often tilted nearly vertical, which crop out both on the western and eastern slope of the Sierra Madre. Tin occurs in veins and flat deposits of a very peculiar character, and in quantities believed to be as rich as anything of the kind yet discovered.

Three specimens are worthy of notice: 1. A crystallized radiated mass, consisting of specular iron enclosed by oxide of tin. 2. Oxide of tin so nearly resembling grape-clustered calcedony, as to be distinguishable only by its weight. 3. Arsenical tin ore, apparently a mechanical mixture of SnO^2 and AsO^3, the tin being in dark brown grape clusters, and the arsenious acid mixed with alumina, in dirty yellowish incrustations. The smelted tin for the market contains from 5 to 8 per cent. of arsenic.

It seems probable that silica, tin, arsenic, iron, etc., were deposited interchangeably from alkaline solutions, holding them in the form of silicate of soda, stannates, arseniates, etc., the precipitating cause in the case of silicate of soda being mere exposure to the air, and cooling off, as is frequently observable at hot springs.

Caves in the Eastern Nevada Limestone.—Many of these are reported, from different districts. One discovered by J. C. Carson, 2½ miles north of Hamilton, was six feet wide at the mouth, and was found, upon clearing the aperture of the loose rocks, dirt, etc., to extend to a depth of twenty-five feet, presenting a room twenty-five by forty feet, with openings leading from it to an unknown distance. The miners on the Enos' deposit ledge, Superior Company, in sinking a shaft on the "vein," at the depth of twelve feet struck into a cavity in the rock, which stands like a natural shaft, extending from within three feet of the surface to an unknown depth. The cave, or natural shaft, is from three to six feet in diameter, and is lined with curiously formed stalactites.

From Patterson District another cave is reported, situated five miles west of the town of Montezuma, which is quite large; having chambers, passages, stalactites, etc., that are compared with the great mammoth cave in Kentucky; Mr. Murphy, the explorer, estimating that there are at least 700 different passages and chambers running underneath the entire White Mountain range.

The philosophy of caves in limestone is simple. Burnt lime—or lime minus the carbonic acid, which makes it limestone—becomes soluble in water. Mountains may thus run off in transparent brooks; but the moment that free carbonic acid is encountered, that earthy substance becomes again insoluble, forming carbonate of lime; usually precipitating itself around springs, where the water comes in contact with air and absorbs carbonic acid from the latter. Not only heat and acid gases from volcanic causes will set free carbonic acid, but the decomposition of sulphurets will do it, forming, by the oxidizing or rusting influence of the atmosphere, sulphuric acid; this liberates the carbonic acid, and with lime forms gypsum, which is also soluble in water in certain proportions. Sulphates of the metals are likewise soluble; so are their chlorides, excepting chloride of silver. The latter metal dissolved as sulphate, assumes palpability—as every prospector knows—the moment that chlorine from salt comes in contact with it. Gypsum is found in immense deposits, and under all imaginable circumstances, where water has had the opportunity to take it up and carry it. The same sulphuric acid that can change carbonate of lime into gypsum, and re-locate it in nature's laboratory underground, is at liberty to operate on the metals wherever they may happen to come in its way.

Native Copper and Silver Side by Side. A specimen of this kind, characteristic of Lake Superior, shown to us by Mr. Bennett, affords strong enough evidence that fusion had nothing to do with their origin, since they would have been melted together into an alloy.

Baron Ritchofen, who has lately been on a geological tour up the Yangtze, as well as in the neighborhood of Shanghai, started a few days since for Chefoo, via the Grand Canal. He will examine the mineral regions of Shangtung, *en route*. From Chefoo, he proposes to cross the Gulf, and to make his way to the Amoor, down that river to Pasiette, and thence to Newchwang, via Kirin.—*Shanghai News Letter, March 20th.*

Marble of a dark variegated color, and susceptible of a fine polish, has been found by Mr. Isoard, eight miles above Nevada City.

The second volume on Paleontology of the California State Geological Reports, has just been received by Mr. Payot, No. 640 Washington street.

Returned.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

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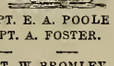

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13v12 President.

[Written for the Mining and Scientific Press.]

Systems and Practice of Irrigation.

The usual semi-monthly meeting of the New York Society of Practical Engineering took place on Tuesday evening, March 30th, the regular subject for the evening being the "Past, Present and Future of Irrigation," and a paper on that topic was read by the President, J. A. Whitney.

The paper gave an elaborate view of the history, the different systems, and the present state of irrigation. The latter comprehended not only the condition of the art in Asiatic and European countries, but also its condition in the western part of our own country. The different systems of irrigation were denominated by the author—flooding, flowing, subterraneous irrigation, and irrigation by means of Artesian wells, the latter class being placed by itself on account of the peculiar manner in which the water is obtained. The great feature of the paper, however, was the discussion relating to the state and future possibilities of irrigation in the Territories of the West, and in California. "Long ago," said the speaker, "when California was but a province of Mexico, and the fame of her wealth was unknown to men, the Spanish settlers in the dry southern sections cut dry sluices to convey the mountain streams to the low places to form ponds, from which the water was conducted to other portions of the fields, and by this means raised luxuriant crops on the rich alluvial; but although the State is well situated for a system of irrigation that should save the crops in unusually dry seasons and assist them in all, it is not practiced to any extent, except on the plains of Los Angelos, and in Yolo County, in which latter one hundred thousand acres of rich land have been irrigated. There can be no doubt but the time is rapidly approaching when irrigation must constitute the one great phase of Engineering as applied to California." Recalling the remarks of a recent writer, the speaker mentioned the vast expanse of steppe land lying east of the great valleys, and rising in plateaus toward the steeper hills of the mining districts. These plains on which drought parches everything, could be supplied with flowing water by a proper system. The speaker also referred to the advantages possessed by California in point of position. The Nevadas, running nearly the whole length of the State, are able to furnish a continual supply of water, while great lakes of supply lie on the high ranges. Sufficient water to inundate all the present land cultivated is now drawn from these mountain sources for hydraulic mining purposes. Artesian water seems to be plentiful, and boring down 150 feet is not as expensive an operation here as in other countries.

The writer then passed to the subject of irrigation in the Great Basin, "whose agricultural capabilities, when the fields are properly supplied with water, are as little generally understood as the mineral wealth of the mountain regions is definitely known." "Of Colorado, it is said that it is a land of sunshine, yielding but little, though scarcely a desert, and possessing millions of acres that would be reclaimed by a canal leading from the Colorado to the rich but arid districts. So of Nevada; for in many of the valleys the soil is rich, though streams are scant, and by careful and proper use of what water is available, it is said with apparent good reason that many millions of acres could be reclaimed from their waste condition. In Idaho, the soil consisting mainly of decomposed granite, yields its crops obedient to the simple watering that the scattered settlers have applied to the fields by artificial means. In Arizona, where remains of waterways show that the ground was once tilled with care, there is an estimated area of a million of acres, capable of reclamation by irrigation. In this Territory an irrigating canal is in process of construction under the sanction of the Government, the first of the great works that must eventually exist along the Colorado River. What is said of Arizona, is applicable, though in a less degree, to New Mexico. In the valley of the great Salt Lake, a large population live upon the agriculture that is sustained by irrigation. The water is mainly supplied from the mountain rills. Canals have been made to conduct the water even to the fields and gardens of Salt Lake City." The Mormons

now contemplate making a grand canal from Utah Lake, thirty miles away, so that they may carry on a broader system of irrigation than now. There are, however, other portions which might be made fertile by an irrigating system.

The reading of the paper of which we have given extracts relating to its practical bearing, was followed by a discussion engaged in by Dr. Hall, and others.

Written for the Mining and Scientific Press

What Makes Ultra-Marine Blue?

MESSRS. EDITORS:—In your issue of April 17th, you give a sketch of the above beautiful blue pigment. Having myself manufactured thousands of pounds, I will offer a few remarks about this interesting compound. As you observed, it was not until a little more than thirty years ago, that people commenced to produce it by artificial means. Before that time they were only limited to the small amount found in nature, and consequently its value exceeded that of gold. The reason was that analytical chemists could not determine what the stuff actually consisted of, that produced the blue color, and to this day I do not believe this point to be definitely settled. Dr. Elsner is firm in his opinion that some combination of *iron* produces this effect, as he could not make the color without the presence of iron; other chemists declare that some *oxide of sulphur* causes the blue color. My opinion does not agree with Dr. Elsner's, since some specimens of the natural and of the artificial ultra-marine do not contain iron. It is true that iron can be converted into a blue oxide in the humid and dry way; but this does not seem to be the real agent in this case. The second opinion seems to be nearer the truth, since all kinds of ultra-marine contain some *sulphur*, if it be ever so little, and likewise sulphuric acid in some connection. If sulphur is mixed with anhydrous sulphuric acid in certain proportions, it produces a green substance or a beautiful blue liquid. Both of them are very indurable, since, if water be added, the color immediately disappears, leaving nothing but sulphur and an acid solution. Another proof of the sulphur possessing a blue oxide, is furnished by the blue flame of burning sulphur. Now my opinion is, that the alumina, which is known to have a great affinity for pigments, forms a connection with that blue oxide of sulphur, and renders it stationary, so that the presence of water would no more destroy it. It is certainly a wonderful production, as no metallic oxide is there, to produce the color. EDWARD PIQUE.

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CALIFORNIA
Marine Metallic Paint.

This Composition, the result of scientific and chemical research, after having been thoroughly tested for the past twelve months, is now offered for sale by the "California Marine Paint Co" incorporated March 25, 1869. The experiments to which it has been submitted, have proved that it is one of the most valuable discoveries of this wonderful age of invention. It has been extensively used in painting the bottoms of all kinds of sailing vessels, wood, iron and copper, and with invariable success. Wooden bottoms, piles, etc., are thoroughly protected from the destruction of the *teredo navalis*, or sea worm; and iron vessels effectually preserved from the adhesion of barnacles, grass and all descriptions of zoophytes, no injury whatever resulting to the plates, as frequently occurs from the use of copper, and other pernicious paints; but, on the contrary, its known properties will preserve them.

By the use of this Paint, coppering vessels is rendered unnecessary; but where a vessel has been coppered it will not only keep it from fouling, but preserve the copper from the ordinary wear and tear, amounting to 10 per cent. per annum, and render it almost indestructible.

It is also invaluable for the preservation of all wooden structures, especially railroad timbers, bridges, floor beams in houses, telegraph posts, and is a certain preventive against the action of the white ant and comagen of Mexico, China, and India.

The company are now prepared to supply all orders, and enter into contracts for the application of this Paint.

Orders and communications in regard to terms, addressed to Capt. R. H. Waterman, President; James Pollock, Superintendent Dry Dock; or L. L. Bullock, Tide Land Commissioner, will receive prompt attention.

R. H. WATERMAN, President of Company.
LLOYD TEVIS, JAMES POLLOCK, L. L. BULLOCK, SCOTT TIDBALL, THOS. A. TALBERT, } Trustees.
JOHN S. ROLLS, Secretary.
San Francisco, March 20, 1869. 15v18-1m

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A GOOD INVESTMENT.
THE MOUNT MORIAH
Silver Mining Company,
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Capital. - - - $300,000.
6,000 Shares, $50 Each.
FULL PAID AND NOT LIABLE TO ASSESSMENT.

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Superintendent at Mines.....CHAS. E. HARRIS

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This Company offer to the public One Thousand Shares of the Capital Stock for a Working Capital, at the subscription price of Five Dollars per share—FULL PAID, and NEVER liable to any assessment whatever. The mine is admirably located for working, being situate on Argyle Hill, opposite Treasure City. Shaft sunk 10 feet, showing a large body of chloride, which assays $700 per ton, and which will now mill $200. The capital raised to be used and expended on the mine. The standing and reputation of the Trustees is ample guaranty of responsibility, etc. Maps and samples of ore, and subscriptions at the office of the Company, Rooms No. 15 Stevenson House, corner California and Montgomery, and at 211 and 213 California street, near Battery street. 15v18tf

ILLINOIS
SILVER MINING COMPANY
White Pine District.
Trustees:
JAS. H. CUTTER, E. U. SHAW, B. H. FREEMAN, JAS. R. CARNISS, DAVID BUSH.

The Company's Mine adjoins the celebrated "Silver Glance," and is in close proximity to the "Argyle," and other prominent mines of the District.

From developments already made, the Trustees feel justified in saying to their friends that this is one of the best opportunities ever offered for investment in this State.

For the purpose of further developing the mine, the Company has set aside a limited amount of stock, to be sold as a working capital, of which they now offer 1000 shares, at the nominal price of $2 50 per share, unassessable—the entire proceeds of which will be devoted to developing the mine.

The books of the Company are now open for subscription at the office of the Company, No. 432 Montgomery street, Room No. 1, first floor. By order.

JAS. H. CUTTER, President.
C. W. STEWART, Secretary.
15v18-1m

ONE THOUSAND SHARES
—OF THE—
UNASSESSABLE STOCK
—OF THE—
Nantucket Mining Company

Are offered for sale at ONE DOLLAR PER SHARE, for the purpose of raising a fund to aid in the development of the mine. The mine is located on TREASURE HILL, about half a mile west of Treasure City, adjoining the "Salt Point on the east. No other issue of this stock will be offered at less than $2,50 per share, the object being to raise a small fund for the immediate prosecution of the work. The Trustees, in offering this stock, confidently believe it to be ONE OF THE BEST INVESTMENTS in the market. Subscription Books now open at the office of the Company, No. 619 Montgomery street. By order of the Board of Trustees.

W. H. BROWN, President.
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THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from $1 50 to $2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

☞Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
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Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

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This elegant preparation is acknowledged by all who have used it to be the most efficient remedy for every disease of the
STOMACH AND BOWELS,
Yet introduced to the notice of the public. Immediately on taking a dose of it, the patient will find a genial glow pervading his entire system, and its steady use for a short time will be followed by a healthy appetite and a good digestion, even in the case of the most confirmed dyspeptic.

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INDIGESTION,
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Or any of the manifold troubles caused by a diseased action of the stomach, this remedy is confidently recommended as a safe and certain cure.

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Engineering.

WATER SUPPLY FROM CLEAR LAKE.—The Solano *Advertiser* says there is a project on foot to supply that city with water from Clear Lake, through an aqueduct of forty million gallons' capacity per day. "The completion of this aqueduct," says that cotemporary, "is no longer doubtful," —the distance being seventy-five miles.

It appears that not only Vallejo, but San Francisco also, is had in view, as a water market. In that light the project becomes more reasonable, and financially interesting. The future water supply of San Francisco has been a somewhat puzzling question for engineers. South of the Spring Valley Company's present sources in San Mateo County, the distances are too great, the creeks outside alone being worthy of consideration, and they too small. Mount Diablo and Tamalpais afford considerable streamlets on their northern sides, but neither the fall nor the quantity is as great as is desirable. Clear Lake lies 100 miles north of San Francisco, and 1,500 feet above the sea. At its lowest stage, in September, it will easily overflow more than the 40,000,000 gallons provided for. Under "New Incorporations" will be found another San Francisco water enterprise.

WATER SUPPLY IN THE INTERIOR.—That branch of engineering undertakings having in view the supplying of water to towns, cities, or districts, is of far greater importance in the periodically rainless regions west of the Rocky Mountains, than in the balmy forest covered States beyond, where brooks are never failing. At White Pine large capital is being invested in works to supply Hamilton and Treasure City, by several companies that have been heretofore mentioned. The *News* reports that the Silver Springs Water Co. have commenced on their works, intended to supply Treasure City, and expect to have them completed in June. The water will be brought from several springs in the eastern slope of the main White Pine Mountain, about three miles west of this city, and conducted across the cañon to the neighborhood of the California mine. At this point an engine of sufficient power will be placed to force the water to the top of Treasure Hill.

The Idaho *World*, of April 15th, reports a project by Messrs. Charles Ostner of Payette Valley, and L. O. Benedict of Centerville, to bring the water of the Payette, from a point near Ostner's bridge, into Boise Basin, across a low divide, to supply the mines of Placerville, Granite Creek, Centerville, Pioneer City, and the adjacent districts. The plan proposed is to force the water by five stationary engines, from the river, into as many ditches in tiers, to the summit of the mountains between Payette Valley and Boise Valley, and thence to lead it by ditches to the respective mentioned camps. The projectors estimate the total volume which can be thus forced to the summit at fully 10,000 inches, and the total cost of engines, fluming and ditching at $300,000.

RAILROAD CONSTRUCTION.—From the railroad front we are informed that on Monday, the 19th, five miles of track were laid on the Central Pacific; and the Humboldt *Register*, April 6th, states that on Tuesday, March 30th, *ten* miles were laid. Concerning the correctness of this report the Sacramento *Reporter* says: "We do not doubt it, as the Superintendent of Construction stated several weeks since, that he intended to lay that much in a day before the connection was made. The telegraph and the San Francisco papers of Thursday state that on Wednesday, April 28th, ten mile were actually laid, and a few thousand feet to boot.

By a late telegram from Washington to the *Herald*, we learn that the President has appointed a Commission to examine the construction of the Pacific Railroad, composed of civil engineers entirely. Their names were not to be announced until it is known that they will accept.

PUBLIC SURVEYS.—The government printing office has issued Gen. Wm. J. Palmer's "Report of Surveys across the Continent in 1867-8, on the 35th and 32d parallels, for a route extending the Kansas Pacific Railway to the Pacific Ocean at San Francisco and San Diego." The work contains 250 pp., with maps.

It seems to be generally understood that Sherman Day's brief incumbency in the U. S. Surveyor General's office, in San Francisco, is to be terminated by a new appointment. The Sacramento *Bee* reports that J. E. P. Weeks, for a long time News Editor of the Sacramento *Union*, will probably be appointed; but Mr. Weeks publishes a card, in which he states that if his appointment as Surveyor has been agreed upon, it is a surprise to him. That gentleman has more strong friends who would be glad to serve him than any other man that could be named for the position, but his card indicates that he will refuse to accept anything more than the compliment.

The Secretary of the Interior seems to have determined that he has no power to order further surveys of the public lands within the limits of the Pacific Railroad grant, until such time as the Company, or other parties interested, have deposited in the Treasury of the United States an amount of money sufficient to pay for surveying and conveying said lands. The Auburn *Herald* supposes this is the reason why the Surveyor General refused to order the land surveyed upon which Auburn is located, until money had been deposited to cover the cost; and reports that the Deputy U. S. Surveyor from Grass Valley, Mr. J. G. Mather, will in a few days commence the survey of Township 15 North, Range 8 East, and 14 North, Range 8 East, Mount Diablo base and meridian, lying on the line of the railroad between Clipper Gap and Colfax. Township 15 North, Range 8 East, contains Allison Ranch, North Star, and several other valuable mines. The settlers are anxious to pay for their titles.

Resources and Developments.

JAPANESE CHESNUTS.—Those of our readers who examined, and better still, those who had the pleasure of testing the mammoth, yet delicious Japanese chestnuts, which were exhibited at the State Agricultural Fair, two years ago, will be pleased to learn that Mr. H. D. Dunn, of this city, recently received three thousand young trees of this variety for growth in this State. The trees arrived in excellent order, and were sent to Bugbey's vineyard, above Folsom, where they will be properly cared for preparatory to sale and distribution. There can be no question as to the successful cultivation of this tree in California. Its extensive introduction here will be a valuable addition to the agricultural resources of the State. We shall endeavor, under the agricultural head in our next issue, to give some hints with regard to the cultivation of nut fruit trees in California.

FARM HOMESTEADS.—The principle of Homestead Associations seems to have taken a new and most useful turn, in its application to large tracts of agricultural lands. One of these associations was recently started on a tract of land just across the American River from Sacramento, embracing some 5,000 acres. It was put up in shares of forty acres each, at $500, payable in installments of $10 per month, without interest. The entire tract was taken up in a few days after the proposition was placed before the public. All the shares offered in this city were taken in a single day. It is to be hoped that this plan of procuring small farms will be quite generally adopted. Owners of large tracts will receive better profits, while thousands of persons who cannot pay down for a farm, will be able to secure the same by small monthly payments. Land put up in forty-acre sections might be secured in tracts of 80 or 120 acres, or more, by subscribing for one or more sections, as might be desired. In bidding for choice, there would be no difficulty in securing adjoining sections. It is to be hoped that the success of this enterprise will lead to the formation of other organizations of a similar class.

ICE.—A new ice company has been formed in this city for bringing ice from Kodiac. Our annual consumption of this article is about 4,000 tons, which is sold here to consumers at five cents per pound. A reduction in price will no doubt follow the establishment of a new company, and, as a consequence, a greatly increased amount of consumption.

THE RECENT EXPERIMENTS WITH THE TELEGRAPH.—In our item last week under the above head, the last word should have been *second*, not *minute*. On page 152 of the current volume, our readers will find the subject more fully noticed.

New Mining Advertisements.

Cordillera Gold and Silver Mining Company.—Morelos District, Chihuahua, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixteenth day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. Shares.	Amount.
W R Cooper	50	62	$52 00
W H Bennett	48	13	13 00
M W Hildreth	123	33	33 00
P M Kelley	190	5	5 00
P M Kelley	226	2	2 10
Henry Blackman	252	21	21 00
Henry Blackman	254	26	26 00
Henry Blackman	278	24	24 00
Henry Blackman	2 3	40	40 00
A P Voohres	235	6	6 00

And in accordance with law, and an order of the Board of Trustees, made on the sixteenth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Monday, the seventeenth day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary.
Office, 321 Washington street, San Francisco. myl

Dios Padre Gold and Silver Mining Company, Alamos, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-ninth day of April, 1869, an assessment of three dollars ($3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. C. McComb, corner of Broadway and Battery streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. C. McCOMB, Secretary.
Office, cor Broadway and Battery streets. myl

Mining Notices--Continued.

Bowden Silver Mining Company. Location of works: White Pine, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of April, 1869, an assessment of five cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, 419 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty ninth day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

M. S. MARTIN, Secretary.
Office, No. 11 Hayward's Building, 419 California street, San Francisco. ap24

Capital Silver Mining Company, White Pine District, Nevada.

Notice is hereby given that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of April, 1869, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the seventeenth (17th) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
Office, Room 37 New Merchants' Exchange, California street, San Francisco. ap24

Daniel Webster Mining Company.—Location of Works: White Pine County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of April, 1869, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the t nth day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of May, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

C. A UHRIG, Secretary.
Office, No 418 California street, San Francisco.

North American Wood Preserving Company. Location of Works: San Francisco, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twelfth day of March, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. shares	Amount.
Geo W Dent	1	400	$400 00
Benj R Nickerson	29	21	21 00
Benj R Nickerson	30	20	20 00
Benj R Nickerson	31	5	5 00
Benj R Nickerson	32	5	5 00
John L Samuels	35	100	100 00
John L Samuels	36	50	50 00
John L Samuels	unissued	150	150 00
Henry S Dent	unissued	200	200 00

And in accordance with law, and an order of the Board of Trustees, made on the twelfth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on the first day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. B. LAKE, Secretary.
Office, 430 Montgomery street, San Francisco. ap17

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the eighth day of May, 1869, at the same hour and place. By order of the Board of Trustees.

myl WM. B. LAKE, Secretary.

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T B WINCARD, Secretary.
Office, 408 California street, San Francisco. mar7

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of March, 1869, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first (1st) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINCARD, Secretary.
Office, 408 California street, San Francisco. mar27

Siempre Viva Silver Mining Company, District of Zarigossa, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of April, 1869, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOUSE, Secretary.
Office, 318 California street, San Francisco. ap17

The Annual Meeting of Stockholders of the Daniel Webster Silver Mining Company, will be held on MONDAY EVENING, May 10th, at 7½ o'clock, at the office of the Company, No. 418 California street.

ap17-4w C. A. UHRIG, Secretary.

Troy Ledge Mining Company, White Pine District, Lander County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixteenth day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
G W Hodge	45	120	$18 00
G W Hodge	46	64	9 60
G W Hodge	47	60	9 00
G W Hodge	48	60	9 00
G W Hodge	50	60	9 00
G W Hodge	51	120	18 00
J C Harmon	59	10	1 50
J C Harmon	60	10	1 50
J C Harmon	61	10	1 50
J C Harmon	62	10	1 50
J C Harmon	63	10	1 50
J C Harmon	64	10	1 50
J C Harmon	65	10	1 50
J C Harmon	66	10	1 50
J C Harmon	67	10	1 50
J C Harmon	68	10	1 50
J C Harmon	69	10	1 50
J C Harmon	70	10	1 50
J C Harmon	71	10	1 50
J C Harmon	72	10	1 50
J C Harmon	73	10	1 50
J C Harmon	74	10	1 50
J C Harmon	75	10	1 50
J C Harmon	76	10	1 50
J C Harmon	77	60	9 00
J C Harmon	78	60	9 00
J C Harmon	79	60	9 00
J C Harmon	80	60	9 00
J C Harmon	81	60	9 00
J C Harmon	82	60	9 00
J C Harmon	83	100	15 00
J C Harmon	84	100	15 00
J C Harmon	85	100	15 00
J C Harmon	86	120	18 00
J C Harmon	87	120	18 00
W I Nichols	13	10	1 50
W I Nichols	14	10	1 50
W I Nichols	15	10	1 50
W I Nichols	16	10	1 50
W I Nichols	17	10	1 50
W I Nichols	18	10	1 50
W I Nichols	19	10	1 50
W I Nichols	20	10	1 50
W I Nichols	21	20	3 00
W I Nichols	22	30	4 50
W I Nichols	23	60	9 00
W I Nichols	24	60	9 00
W I Nichols	(No Certificate)	1580	238 50
C W Stevens	balance 91	100	6 67
C W Stevens	balance 92	100	6 67
C W Stevens	balance 93	100	6 67
C W Stevens	balance 94	100	6 67
C W Stevens	balance 95	100	6 67
C W Stevens	balance 96	100	6 67
C W Stevens	balance 97	100	6 67
C W Stevens	balance 98	100	6 67
C W Stevens	balance 99	100	6 67
C W Stevens	balance 100	100	6 67
J G Mitchell	101	18	2 70
J G Mitchell	127	12	1 80
J G Mitchell	128	12	1 80
J C Mitchell	129	12	1 80
J C Mitchell	130	12	1 80
J G Mitchell	131	12	1 80
J G Mitchell	132	12	1 80
J G Mitchell	133	24	3 60
J G Mitchell	134	24	3 60
J G Mitchell	135	24	3 60
J G Mitchell	136	24	3 60
J G Mitchell	137	24	3 60
J C Mitchell	138	36	5 40
J G Mitchell	139	36	5 40
J G Mitchell	140	36	5 40
J G Mitchell	141	60	9 00

And in accordance with law, and an order of the Board of Trustees, made on the sixteenth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Monday, the twenty-fourth day of May, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M BUFFINGTON, Secretary.
Office, 37 New Merchants' Exchange, California street, San Francisco. ap24

The Annual Meeting of Stockholders of the Williamantic Silver Mining Company, will be held on TUESDAY EVENING, May 18th, at 7½ o'clock, at the office of the Company, No. 418 California street

ap17-4w C. A. UHRIG, Secretary.

'THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It has donned a new-style hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 16th.*

New Inventions.

A Novel Assaying Apparatus.—Mr. J. S. Philips, mining engineer and assayer, at 423 Washington street, in thie city, has invented a novel apparatus, founded on the principle of the blow-pipe assay, by wbich be is able to operate on 15½ grains at ono timo. By this apparatus, which is contained in a cubical box of only six inches face, he effects a concentration of three blow pipo flames npon his assay so as to readily reduce the largo amount stated, and effect the cupellation of the same moro easily than it could ho done hy an assay furnace. When his work is completed the value, per ton, of the latter may be read off at sight, by an ingeniously devised instrument carried within the aforesaid box, which also contains all the chemicals required for 50 or 60 assays. This apparatus is designed for the use of prospectors, and can be readily carried under the arm, or slnng over the back liko a canteen. Measures aro heing taken for securing a patent for the eame through the Patent Agency connected with tbis office.

Sweet's Improved Sulky Plow.—This improved implement for the farm, which is a recent Oregon invention, may be seen on the sidewalk in front of Hawley & Co'e storo, corner of California and Battery streets. The chief improvements in this plow consists in a device by which either plow can be elevated or lowered while in motion, hy the driver as he sits npon his seat, thus readily and instantly adjusting it to uneven ground. It may also he instantly changed from a stiff to a limber tongue, while by the mere application of the foot to a brake, or hoth plowe may be readily raised out of the ground to pass over any obstruction. This plow was first introdnced in Oregon last summer, where it is said to ho giving the best of satisfaction. It is now offered in this State in county rights, or the entire State right will be disposed of. The inventor, Mr. L. T. Sweet, has also patented an ingenious device—a single-tree elip, by which a runaway horse can be instantly detached from a carriage by eimply pulling elightly upon a strap, running along and attached to the front of the dasbboard. We sball probably hereafter have occasion to speak of other ingenious inventions by Mr. S., applications for patents for which are uow pending.

Martin's Miniature Hydraulic Engine. One of these machines may be seen in operation at the Howe Sewing Machine Co'e office on Kearny street. By our Stockton exchanges we learn that Mr. Vincent, of that place, also has one in operation in many a eewing machine, it being alleged that three times the labor can be done by a eewing machine driven by one of these engines, than can be performed by one worked in the ordinary way. The oscillating cylinder ie an inch and a half in diameter, and the piston stroke three inches and a half. The hydraulic pressure is applied by conducting the water from the faucet of an inch pipe through a small gutta-percha hose eecurely fastened to the center of the cylinder on one side, and the moment the spigot is turned and the cylinder moved from a level eo as to admit the force of the water into the eavity, tbe see-sawing movement commences, and the engine soon reaches a speed of two hundred and fifty revolutions per minute.

Knee Pressure Sewing Machine Power. The Oakland *Transcript* says: The Quidnuce, a company of young gentlemen of Folsom, have invented and filed a eaveat for a patent of a new machine, tbe object of which ie to save the use of the foot in running small machines, especially the sewing macbine. It is to be fastened to the legs of tue sewing machine, and by a gentle presseure of the knee sideways, the sewing machine is made to run with ease, the speed being regulated by the strength of tbe pressure. The pressure removed, the machine stops. It is a small affair in size, takiug very little space, and easily fastened inside or outside the legs of the sewing machine. Machinists who have seen it are confident if will work to a charm and ie eusceptible of a wide application.

New Hay Press.—The Santa Cruz *Times* eays: Mr. George Nutter bas invented a new hay-press—a most decided improvement upon the old-fashioned sort. It bas greater power with less expenditure of labor, and turns out a neater bale.

Progress of Invention.—Who would have believed two centuries ago that a "little vapor"—the symbol of the feebleness and the brevity of human Life—would prove to be a giant, the motive power for the immenso industries of the world—multiplying manufactures a million fold? * * * Enough has been discovered to demonstrate that light and heat can be husbanded from the sun's rays, and it is very generally believed among ecientific men that within a few years every one will be enabled to set bis retort on the window-sill on a sunshiny day and gather in a few hours fuel and flame sufficient to supply an ordinary household for a week.—*S. F. Herald.*

New Patents Issued to Pacific Coast Inventors.

For the Week Ending April 15th.

Magazine Fire-Arm. — Thomas Cullen, San Francisco, Cal.—88,853.

I claim 1. The revolving magazine B, in combination with the outer cylinder A, all constructed and operating substantially as and for the purpose set forth.

2. The slide E, with the cap *r*, slots *s s, g*, and finger *t*, in combination with the pin *d*, and the extractor-arm *c f*, when constructed substantially as and operating in the manner and for the purposes described.

Lifting-Jack. — Timothy Stebbins, San Francisco, Cal.—88,923.

I claim, in a lifting-jack, the weighted arm E, on the lever C, and the spring *c*, together with the pawl, having the curved end *h*, substantially as herein described.

This Lifting Jack is so constructed that heavy weights may be either raised or gradually lowered as desired, by the same movement of the lever. This is accomplished by means of a pawl, pivoted directly over the operating lever, having a curved projection at tbe end opposite that which operates in the rack. A weighted arm is hinged to tbe arm of the lever, and is thrown over so as to rest upon the curved projection, and by its weigbt free the pawl from the teeth when it is desired to lower the rack. And by operating the lever tbe pawl is freed from each tooth by the weighted arm at each downward movement and caused to catch the next tooth above as the lever is raised, striking a spring made of rubber or other suitable material. We shall soon give an illustration of this ingenious deviee.

Amalgamator.—Solomon Johnson, San Francisco, Cal.—88,963.

I claim making slotted openings D D, with dovetailing ends, to receive a crank-connection, or segmental rack, substantially as described.

An illustration and full description of this gold and eulphuret saving machine, may be seen in our issue of April 3d, 1869.

Combined Knob-Latch and Lock.—John McLeod, San Francisco, Cal.—88,874.

I claim the bar K and tumbler M, when arranged in relation to each other and to the key C, and the lug C, on the bolt B, substantially as herein set forth.

This improvement relates to spring locks, or night latches. It consists in so constructing the tumbler that when moved by the key in one direction it eo acts on a secondary bar as to eecurely stop the bolt, and whon moved in the opposite direction it releases the bolt so that it eau be operated by the knob, and will serve as an ordinary latch.

Putting a "Girdle Round the Earth" to Catch Swindlers.—Two Chiuamen, Hong Kee and Ah Ting, who muleted a large number of Clay street grain dealers and Front street liquor merchants in about tbe sum of $18,000, by making extensive purchases of flour and liquor, and absconding with their flour on the China steamer, have been headed off by a telegraphic dispatch via Point de Galle and Ceylon, which was carried thence to Hongkong by eteamer; the goods being recovered, but the Cbinamen eseaping in the crowd at the landing of the California eteamer. Cbina is rapidly learning to appreciate the arts of outside barbarians.

The New Commissioner of Patents.—Our Washington correspondent writes thus favorably of this newly-established officer,—S. S. Fisber: "He is the great patent lawyer of Cincinnati, and author of several worke on patent law which are highly valued. * * Probably one of the most capable persons for tbe position that can be found," etc. This commendation comes from an impartial-minded man, who has long been familiar with the Patent Department and its officers.

State Sabbath School Convention.—The second annual State Sabbath School Convention of California, will be held at the hall of the Young Men's Christian Association, 232 Sutter street, San Francisco, commencing on Tuesday evening, May 11th, delegates receiving free return tickets.

Pacific Protective Association of California.

INCORPORATED OCTOBER, 1868.

PROSPECTUS.

Object.—The object of this Association is to secure a cash payment, within sixty days after the death of a subscriber, to his or her heirs or assigns of as many dollars as there are individuals of the class to which said deceased subscriber belonged.

Membership.—The subscription fees are Ten Dollars at joining, and One Dollar on the death of each subscriber. The One Dollar from each subscriber is paid to the heirs or assigns of the deceased.

The Funds.—The By-Laws of the Association require that a portion of the money received as subscription fees shall be a Sinking Fund to meet assessments falling due by the delinquencies of subscribers. The balance of the money received to be used for the payment of the expenses incurred by the Association.

Members.—A subscriber failing to pay his or her assessment of one dollar within Thirty days from receipt of notice forfeits his or her Certificate, and all claims upon the Association, unless good cause is shown for further delay. A subscriber can forward money in advance which amount will be credited on future assessments. The subscribers are divided into classes including males and females. Each class is limited to 5,000 subscribers. As classes are filled, new ones will be formed. No person is so, nor that he cannot pay Ten Dollars at joining and One Dollar occasionally, thus securing $5,000 to his or her heirs or assigns.

Advantages.—The advantages of this Association are, that no *money panic* can affect it. Its benefits are easily obtainable by all, and every subscriber added to the Association enhances the interest and protection of all; the amount paid being so small, and only at long intervals, that any person can secure for his family a competency upon his death.

Classes.—In Class A, all persons between the ages of 15 and 40 years; in Class B, all persons between the ages of 40 and 60 years.

Any one that has not stated his or her age correctly, will forfeit all money paid and his or her Certificate.

One class cannot be assessed if one of another class dies. Classes have no connection with each other.

How to Become a Member.—A person desirous of becoming a subscriber must fill out an application, and forward with it Ten Dollars by Check, Draft, or by Express, in gold or silver coin. Persons can pay agents, when regularly appointed and authorized to receive money. Each subscriber should interest himself in obtaining new members, by so doing all are benefited

Board of Directors.—Benjamin H. Freeman, George H. Russell, Samuel A. Raymond, James A. Pritchard, W. Le Roy.

Officers.—Benjamin H. Freeman, President; George H. Russell, Vice President; John H. Warren, Secretary; James A. Pritchard, Treasurer.

References.—Hon. Henry Dutton, President of Farmers' and Mechanics' Bank; Hon. Samuel Cowles, late Judge County Court, San Francisco; Hon. A. J. Gunnison, Attorney at Law, San Francisco; H. J. Booth, Esq., Union Iron Works, San Francisco; Henry F. Williams, Esq., Real Estate, San Francisco; John O. Hanscom, Esq., Etna Iron Works, San Francisco; John H. O'Brien, Esq., of O'Brien, Bush & Co., San Francisco; Hon. J. P. Jones, Gold Hill, Nevada.

All communications should be addressed to the Secretary of the

PACIFIC PROTECTIVE ASSOCIATION,

S. E. COR. OF MONTGOMERY AND SACRAMENTO STREETS, (Over Donohoe & Kelly's Bank,) SAN FRANCISCO.

[10v18-3mos.]

MINING AND SCIENTIFIC PRESS. DEWEY & CO. Patent Agents Engravers & Printers 414 CLAY ST. SAN FRANCISCO

Pacific Mail Steamship Co's

STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL, for NEW YORK:

On the **10th, 17th** and **30th** of each month that has **30** days.

On the **10th, 18th** and **30th** of each month that has **31** days.

When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 17th falls on Sunday, they will leave on the Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departure of the 17th or 18th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained

The following Steamships will be dispatched on dates as given below:

May 8th—COLORADO.....Capt. Wm. H. Parker, Connecting with ALASKA, Capt. Gray.

May 18th—CONSTITUTION.....Capt. Wm. H. Hudson, Connecting with HENRY CHAUNCEY, Capt. Connor.

May 29th—GOLDEN CITY.....Capt. Wm. F. Lapidge, Connecting with ARIZONA, Capt Maury.

Passengers berthed through. Baggage checked through. One hundred pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets to Liverpool by the "Inman" and "National" Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £40 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

For Merchandise and Freight to New York and Way Ports, Company's Form of Bill Lading only used.

No Freight will be received on board after 2 P. M. of the day prior to the steamer's departure.

The Steamship JAPAN will be dispatched for YOKOHAMA and HONGKONG on TUESDAY, May 4th, 1869, at noon, connecting at YOKOHAMA with the steamer NEW YORK, for SHANGHAI.

For passage, freight and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

The Perfection of Prepared Cocoa.

MARAVILLA COCOA.

Sole Proprietors—TAYLOR BROTHERS, London.

The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skilful application of their soluble principle and elaborate machinery, produced what is so undeniably the per cetion of Prepared Cocoa, that it has not only secured the preference of home baths and cocoa-drinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.

"A SUCCESS UNPRECEDENTED."

[See following extract from the Globe of May 14, 1868.]

"Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adapting their perfect system of preparation to this finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.

Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.

6v18-1y

CRUDE BULLION.

Crude Bullion of any kind, bought at the highest prices Address, ALBERT ARENTS, 110 Kearny street, San Francisco. 13v18-3m

To White Pine Owners and Others.

Abstracts of Titles to Mining Claims, Town Lots and Lands furnished. Mines examined and reported on by a competent person now residing in Treasure City. Mining Claims, Town Lots, etc., bought and sold on commission. For information apply to BIDLEMAN & CO., 605 Montgomery street. 15v18-1m

Maurice Dore & Co.,

AUCTIONEERS.

THURSDAY.

THURSDAY.....MAY 6, 1869,

At 12 o'clock, at Salesroom,

No. 327 MONTGOMERY STREET,

Special Credit Sale

—OF—

Montgomery Street Property,

By order of the Trustees of the Montgomery Street Real Estate Company.

We will sell on the above date

1,000 FEET FRONTAGE ON MONTGOMERY,

BETWEEN MARKET AND HOWARD STREETS,

Which will embrace **13** FINE CORNERS, as follows:

One on Montgomery and Market,
Three on Montgomery and Jessie,
Three on Montgomery and Mission,
One on Montgomery and Minna,
Four on Montgomery and Natoma, and
One on Montgomery and Howard Streets.

Montgomery street, between Market and Howard, is **70** feet in width, and will be sowered, paved with Stow pavement, curbed and sidewalked.

TERMS—One-fourth cash; one-fourth in one year; one-fourth in two years; one-fourth in three years—deferred payments to bear interest at the rate of ten per cent. per annum, payable monthly, and be secured by mortgage on the property.

Diagram Catalogues will be ready in a few days, and can be had on application at our office.

MAURICE DORE & CO.,
15v18-1m Auctioneers.

HAYWARD & COLEMAN

IMPORTERS AND REFINERS

—OF—

Illuminating, Lubricating,

—AND—

PAINT OILS,

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO—

Spirits of Turpentine and Alcohol.

Lamps and Lamp Stock!

An elegant and complete assortment.

SOLE IMPORTERS OF

Devoe's Illuminating Oil

PATENT CANS.

5v17-tf. 414 Front street, San Francisco.

Pump Leather.

The attention of MINING COMPANIES, and others requiring a superior article for Hydraulic purposes, is invited to the heavy Oaked Tanned Pump Leather, manufactured and prepared expressly by the undersigned.

TRADE SANTA CRUZ TANNERY E. JONES & Co MARK.

Constantly on hand and for sale by

GRAY, JONES & CO.,

Depot of the Santa Cruz Tannery,

418 Battery St., San Francisco.

25v17-1y

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers ½ de on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

ELLERY'S PATENT
India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,

Iron, Brick and Wooden Buildings,

SHIPS, STEAMBOATS, STAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

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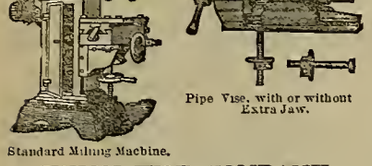


Standard Milling Machine. Pipe Vise, with or without Extra Jaw.

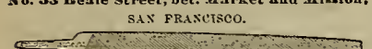
UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises. Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 500 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

PACIFIC FILE WORKS,
No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**

Removal.
NELSON & DOBLE,
AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

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MACHINERY AGENCY.
RICHARDSON, MERIAM & Co's CELEBRATED
Wood Working Machinery.
W. O. M. Berry & Co. 114 California St San Francisco.

Embracing every description of Planers, Matchers and Mortisers, Moulding, Tenoning, Boring, Shaping, Vertical and Circular Resawing Machines; Scroll, Railway, Cut-off and Rip Saws, etc., etc. Agents for the Swam-scot Co's

Improved Portable Engines,

Warranted fully equal to any in the market; Davis & Furber's Woolen Machinery; Blake's Patent Steam Pumps; Kilburn's and Warren's Turbine Water wheels, etc., etc.

Orders for Machinery of any kind will receive prompt attention. Machines for special purposes built to order. Send for Illustrated Catalogue. W. O. M. BERRY & CO.,

8v18-3m 114 California st., San Francisco.

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 1 Clay street, below Davis.

GLASGOW
Iron and Metal Importing Company
Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

CALIFORNIA TOOL WORKS,
Blacksmith and Machine Shop,
143 Beale St., bet. Mission and Howard,

SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted.

21v17-6y **J. WEICHHART, Proprietor.**

PATENT
Boiler Scraper and Tube-Cleaner.

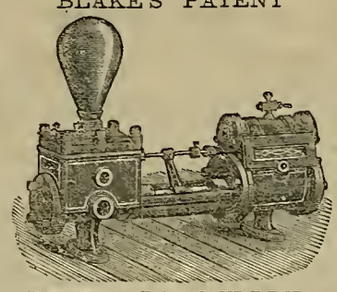
IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers where muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

BLAKE'S PATENT



STEAM PUMP!

This Pump is warranted superior to any in the market, for Breweries, Sugar Houses, Tanneries, Boiler-Feeders, Steamboats, Mining and Fire purposes, etc. It throws a full stream of the thickest beer mash without clogging, and sugar syrup boiling hot without difficulty.

Warranted a positive Pump under ALL circumstances; it never stops nor gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

☞ If one fails to do the work for which it is sold, it may be returned and the money will be refunded. May be seen in operation at Risdon's, or Union Iron Works, or at

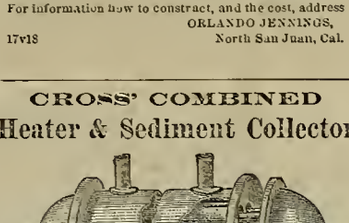
W. O. M. BERRY & CO'S,
Agents for Pacific States,
8v18 3m 114 California street, San Francisco.

A NEW SLUICE
For Concentrating Gold, Amalgam, Sulphurets or Black Sand, in Quartz Mills,
OR PLACER MINES.

It is made without Iron work, is cheap, durable, and effective; can be made by any good mining carpenter at the mine or mill, of sizes to separate the Sulphurets from one to fifty tons of sand per hour. There is no expense for motive power, or to handle the sand, if it can be run from the mine or mill directly into the receiving sizing boxes by means of water. It is continual, self-discharging, and can be used for concentrating fine gold and black sand, on the river bank or ocean beach. They may be seen at work in the American Company's Mine at North San Juan.

For information how to construct, and the cost, address
ORLANDO JENNINGS,
17v18 North San Juan, Cal.

CROSS' COMBINED
Heater & Sediment Collector



This Heater effectually prevents the collection and deposition of sediment in the boiler from impure water. From April 1, 1869, the Royalty on this Heater has been

REDUCED 45 PER CENT.,

Which enables the Vulcan Iron Works, McAfee, Spiers & Co., of San Francisco, Keep & Bargion, of Stockton, and Williams & Co., of Sacramento, the parties having the right to build them, to furnish these Heaters at greatly reduced rates. Send for Circulars to WM. B. CROSS,
15v18-3m Patentee, Sacramento, Cal.

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL.

BARTLING & KIMBALL,
BOOKBINDERS,
Paper Rulers and Blank Book Manufacturers,
595 Clay street, (southwest cor. Sansome),
15v12-3m SAN FRANCISCO.

JOHN DANIEL,
(SUCCESSOR TO O. GORI)
MARBLE WORKS,
No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs Etc., On hand and Manufactured to order.

☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,
(Over W. T. Garratt's Brass Foundry,
S. E. Corner of Mission and Fremont sts.,
6v14tf SAN FRANCISCO

J. F. PAGES,
SEAL ENGRAVER,
AND LETTER CUTTER,

Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.
6v16

DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,
Manufacturers of all kinds of
Desks and Office Furniture,

717 Market street, near Third.

Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

Agents Wanted!
For the "American Year Book and National Register," for 1869.

Horace Greeley's Autobiography, and other new and popular works. Send for descriptive circulars.

F. DEWING & CO.,
1 v18 3m 418 Montgomery street, San Francisco.

SAN FRANCISCO
Pioneer Screen Works,
JOHN W. QUICK, Manufacturer.

Removed to A. Pritzel's Iron Works, 203 Fremont street, near Howard, San Francisco.

Screen Punching in all its branches, at rates reduced from 25 to 40 per cent less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.

N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

HINKLE'S
"IMPROVED SPRING-BED BOTTOM."
(Patented July 21st, 1868.

The undersigned, having purchased the Patentee's interest in the States and Territories of the Pacific Coast, is now prepared to supply Private Houses, Hotels and Steamers with this comfortable, economical and durable "IMPROVED SPRING BED BOTTOM."

Persons going to White Pine will greatly promote their comfort by taking one of these Patent Bottoms, which is secured to a folding bedstead, the cost of which is less than that of the materials at White Pine.

Wareroom, No. 1092 Market Street.
P. HUDSON, Proprietor.
☞ Call and examine. Open until 8 o'clock P. M.
8v18qr

Avery Pump and Tube Well.
Complete for Use.

The TUBE WELL is formed by driving prepared iron piping into the ground with a sledge. Although of comparatively recent invention, these wells have won a world-wide reputation, and are proven to be superior to the ordinary dug well, costing sometimes less than one-fourth that of others, and at the same time excluding the surface water and dirt. The tubing is coupled together in lengths of about six feet, as they are being driven into the earth; the valves are then dropped in and the Pump screwed down on top.

FORCE AND LIFT PUMPS

Always on hand. For ease of Working, durability and force, the Avery Pump has no superior. For circulars, etc., address Postoffice box 17.

UHRIG & BEWEY,
13v15tf 518 Pine street, San Francisco.

Pacific Chemical Works.
SULPHURIC ETHER,
SPIRITS OF NITRE,
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
FALKENAU & HANKS,
Office and Laboratory, Sixteenth street, between Folsom and Harrison.

LOUIS FALKENAU, State Assayer.
☞ Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

White Pine Summary.

We find in our exchanges numerous "letters from White Pine" to friends in different parts of California and Nevada. These letters vary widely in their tone. Many were evidently written by men who, finding everything in the way of mining ground taken up, and seeing nothing to do by which to pay expenses, among the multitude of others similarly situated, jump, in their disgust, to the conclusion that the whole country is a "bilk;" that there are no mines except a rich deposit or two which are already in the hands of the capitalists; and that this is proved by these facts, viz: 1st, that the people there are wandering off still farther south, on prospecting trips for other districts; and 2d, that the shipments of bullion are not large.

On the other hand, the local journals say, "Wait until next fall"—"wait until we get a supply of mills—*then* you will see a different state of things." "Before next autumn our bullion product will equal that of the Comstock."

The tangible facts seem to be that there is extremely rich ore in Treasure Hill, and that a large extent of more or less rich mining country, covering a space reaching fifty miles or so in every direction from that point, will be opened up.

MINING ITEMS—EVENING STAR—STEWART.—*News* of April 14th: These mines are about 1000 feet south of the Eberhardt, and belong to a San Francisco company. They are both upon the same ledge. This, as far as opened, shows a width of seven feet, and it is intended to open a cross-cut to ascertain its width. On the dump pile is several tons of fine ore, which it is expected will mill at least $300 per ton. About 500 feet further down the hill is the Mahogany, also belonging to the company. This claim also shows very fine ore, with a ledge some three feet wide.

OCHA VERA.—This is near Hamilton. Ten men have been kept at work since the discovery, one week since. The developments show an average width of seven and a half feet. It is opened for a distance of forty feet on the surface, with numerous excavations, from which ore is taken giving an assay of $1,300 per ton.

U. S. GRANT.—Same of 16th: We were presented, yesterday, by Col. W. F. Johnston, one of the most magnificent specimens we have seen in White Pine. It was obtained from the U. S. Grant mine, a mammoth ledge, situated on the eastern slope of Treasure Hill. It was located in December, and its developments show a width of about forty feet, containing bodies of ore of the richest character. The specimen we have is a mass of chloride of silver, almost the pure metal, glistening in white wire slightly braided, and generally showing like a body of wax. Such a specimen could come from only the richest of veins.

EBERHARDT.—*News*, 20th: This company yesterday struck what appears an almost inexhaustible body of ore at a depth of one hundred and ninety feet from the surface, assays from average car samples of which have been obtained, ranging as high as $2,000 per ton. At this depth the ledge is found perfect, with well defined walls.

VELOCIPEDE HILL.—On this hill, situated a short distance south of Pocotillo Flat, prospecting is being carried on. Many of the claims present encouraging prospects.

ROSEBUD.—This claim, half a mile west of Chloride Flat, has been stripped for 50 feet, showing a vein of ore two feet in width. At the surface the rock assayed $161, and shows improvement at a greater depth.

HURST.—About one hundred tons of high grade ore have been taken from the middle shaft of this mine, and will be sent to the Newark mill for reduction.

AURORA CONSOLIDATED.—23d: This company yesterday commenced work on their shaft. It is the intention, we believe, to go down a considerable distance on the ledge, and drift each way for the purpose of ascertaining its exact width.

PROSPECTING ON THE BASE RANGE.—As the snow recedes prospectors ascend the Base Range. Already, and within the last few days, many promising claims have been located along the foot hills of this range of mountains.

HAMILTON MINES.—*Inland Empire*, April 15th: Prospecting around Hamilton has just commenced, and with such promising results that we have no doubt that when the mineral resources of the hills surrounding Hamilton have been developed, we will steal some of the laurels from Treasure Hill.

STRIKE.—16th: Last evening we saw a chunk of ore weighing about two pounds,

which was almost pure chloride of silver. It was taken from the surface of a ledge discovered yesterday, located between Hamilton and the Virginia mine.

Bullion.—17th: The first National Bank have on their counter six bricks, amounting in the aggregate to $10,500, which will be shipped to New York to-day. They are from rock out of the Eberhardt mine, worked at the White Pine mill.

Mills and Smelting Works.—*News*, 31th: The foundation for a quartz mill from Aurora is being laid half a mile below Shermantown. A. Kolab's 8-stamp rotary battery is also being put up one mile below the Cañon City. The foundation for a third mill, still further down the cañon, is being dug out.

News, 15th: Three first class quartz mills are in course of construction in Shermantown, which will be in running order in a few weeks. A vast quantity of ore is accumulating about Treasure Hill, and these mills and others will be kept busily employed for months. Shermantown promises to be the busiest milling town in the State.

Same of 15th: The smelting works at Swanson, above Shermantown, commenced work yesterday.

Quartz Mill for Patterson.—Same of 16th: We understand that negotiations are pending for the purchase of a quartz mill at Austin, to be shipped to Patterson District.

The old Manhattan mill from Washoe, has all arrived on the ground, and grading is being done for the boilers, and the frame of the building is being put up. The mill is being put up at the spring, about one mile and a half east of Hamilton.

Eureka District.—*Empire*, 17th: There is in process of completion at Eureka, a smelting furnace of capacity sufficient to reduce 10 tons of ore per day. This furnace has been constructed under the direction of A. D. Stettefeldt, a gentleman of experience and high attainments in the art of smelting ores, and great confidence is felt in the successful working of the same.

Outside Districts.—*News*, 13th: Seymour and Troy.—The first named of these is south of Grant. Many fine ledges have been discovered, and are now being prospected. The bank of California, it is said, has men locating and opening claims in the district. Troy District is six miles south of Seymour, and also contains many fine ledges and much rich ore.

Robinson,—Same of 14th: The City of London, is the name of an argentiferous quartz ledge in Robinson District, which, in size, surpasses any similarly rich body of ore in America. The croppings stand fifteen feet above the surface of the ground, are one hundred and fifty feet wide, and extend two hundred feet along an isolated hill or ridge dividing the upper end of Robinson Valley. Two samples—one broken from each side of the ledge—eight feet above the ground, were assayed by Theall & Co., of Hamilton, yesterday, the one showing $336 15 to the ton, and the other $360 06.

Patterson—Same of 17th: There are 250 recorded locations in this district. Two mills are to be erected. Timber is abundant....We were yesterday shown a quantity of excellent ore from the McClune ledge, assays from which were obtained averaging about $500 per ton.

Reveille, 22d: We have been informed that sixteen claims in this district sold a few days since for $50,000. A 20-stamp mill will be put up in a short time by one company, and an 8-stamp mill by another company. In addition to the above, $15,000 is to be paid for four mines, and $6,000 for another claim. A later report by same Journal is to the effect that the purchase has not been consummated, owing to a disposition on the part of present owners to hold.

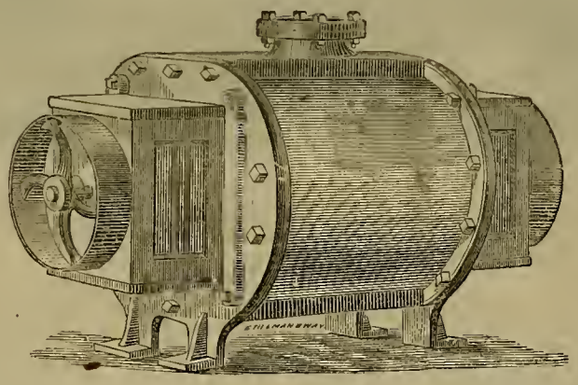
Robinson—*News*, 23d: Messrs. Lamb, Hicks and Russel are progressing rapidly with their new road from Hamilton through Robinson District, which is to connect with the Egan or Bingham road, at Brown's ranch. Other parties are also going to work immediately, to construct an extension of this road across the Shell Creek range of mountains to the Snake Monntain District. This will bring the productive valleys of Southern Utah in direct and easy communication with White Pine, and thereby materially reduce the expense of living here.

Eureka—*Empire*, 15th: Assays give the Gem credit $2,000 per ton. This district is situated about 40 miles west from White Pine, in what is known as the Diamond range. The ledges are innumerable, large and promising, varying from six to forty feet in width. They contain principally smelting ores, carrying from $100 to $2,100 per ton in silver.

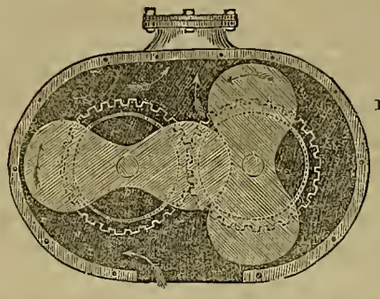
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR **Smelting, Foundry, Mining and Steamships.**



REQUIRES **Fifty Per Cent.** LESS POWER **Than any Blower** Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

Caution.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

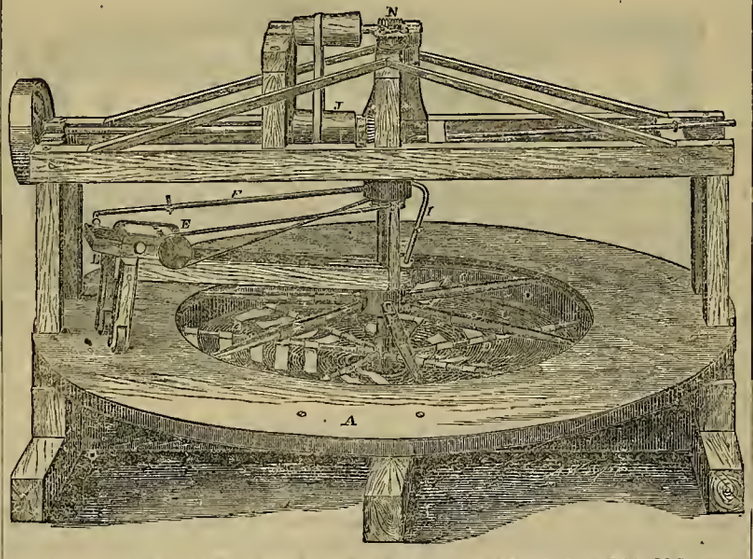
For circulars and further information, address

KEEP & BARGION,
Globe Iron Works, Stockton, Cal.

4v16-3m

PAINE & STEPHENS' IMPROVED CONCENTRATOR,

For Saving Gold and Silver Sulphurets.



One Machine, costing about $1,300, is sufficient to work the Sands from 25 to 30 Stamps,

Less power being required than for any other Machine. The attention of quartz millmen throughout the State is directed to the subjoined certificates, and if they desire they can visit the Amador Mining Co's mill, near Sutter Creek, the Eureka Co's mill at Grass Valley, or the Banner Co's mill near Nevada, and see for themselves.

CERTIFICATES:

Grass Valley, Jan. 4th, 1869.—This is to certify, that we have used the Paine, Stephens & Harry Concentrators for over twelve months. They have given us entire satisfaction, and are the best we ever used.
WILLIAM WATT, Supt. Eureka Mine.

This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.
WM. L. TISDALE, Supt. Star Spangled Banner Mine.

Nevada City, Oct. 26, 1868.

Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE, at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.

13v16sow

Metallurgy.

MOSHEIMER'S
PIONEER MINING SCHOOL,
—AND—
METALLURGIC WORKS.

Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of

Chemistry, Assaying and Metallurgy,

That I am prepared to teach all the above branches in less time than in any European School.

I also undertake to assay and work any kind of ore, or mineral substances.

For terms, apply to JOS. MOSHEIMER,
Practical Chemist and Metallurgist.
Office, 323 Montgomery street; Metallurgic Works, 2005 Powell street, San Francisco. 6v18-6m

LEOPOLD KUH,
Assayer and Metallurgical Chemist,
(Formerly of the U. S. B. Mint, S. F.)
Office, No. 611 Commercial Street, opposite the Mint, San Francisco.
BULLION MELTED AND ASSAYED,

The correctess of which is guaranteed in every respect. All kinds of Ore and Mineral tested, assayed and analyzed in the most satisfactory manner.

Refers by permission to W. C. Ralston, Cashier Bank of California; Messrs Pioche & Bayerque, Wm. M. Lent, John D. Fry, E Cahill & Co., A. K. Grim, President Pacific Union Express Co.; John M. Eckfeldt, M. and R. U. S. B. Mint; Hale & Norcross S. M. Co., and the principal mining companies on the Comstock Lode. 25v17-1f

PROF. HENRY WURTZ,

Formerly Chemical Examiner in the U. S. Patent Office may be employed professionally as a Scientific Expert. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞ Written communications preferred.

Important to Gold and Silver Miners and Companies.
PROFESSOR WURTZ,

Who is the Inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of

SODIUM AMALGAM.

All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Reuhur Pan, for working from 1,000 or 20-lb. charges of material for experimental purposes. 3v17

R. TAYLOR. WM. H. TAYLOR.

ROBERT TAYLOR & CO.,
METALLURGISTS.
SMELTING WORKS,
Twelfth street, between Folsom and Howard.

GALVANIZING.

Also, Anti-Friction, Alloys for Journals, Type and Stamping Metals, Tinners and Plumbers' Solder, Etc.

☞ The best price given for the most rebellious or refractory ores. Ores and minerals assayed and analyzed.
ISAAC BLUXOME, Agent,
4v18-3m N. E. cor. Washington and Battery streets.

G. W. STRONG,
ASSAYER AND WORKER OF ORES,
No. 10 Stevenson street, near First, San Francisco.

Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms. 14v15qr.

LEA & PERRINS'
CELEBRATED
WORCESTERSHIRE SAUCE

Declared by connoisseurs to be the only
GOOD SAUCE.

The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for

Lea & Perrins' Sauce,

and see that their names are upon the wrapper, labels, stopper, and bottle.

Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L and P. give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.

Caution against Fraud.

Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.

Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CROSS & CO., San Francisco. 3v18-6m

SULPHURETS;
What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

For sale at this Office.—Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

The Railroad Celebration.

The Convention of the different organizations in this State have held their meetings pursnant to call, at the Mechanics' Institute Building, and decided after mnch deliberation to appoint a Committee of Arrangements to cousist of one from each organization there represented, whose duty it should be to appoint two hundred citizens, to coöperate with themselves in perfecting arrangements for the celebration. The committee was appointed as follows:

J. R. Bachelder, of the Eight-Hour League; J. Wilcox, of the Mechanics' Institute; H. Blakeman, of the Turn Verein; James Patterson, of the Cabinet Makers' Association; Alexander McAbee, of the Dashaways; J. C. Laugton, Lodge No. 123, I. O. O. F.; C. B. Culver, of Parker Lodge No. 24; J. H. Develine, of the Iron Moulders' Union; H. B. Livingston, of the California Pioneers; G. W. Barter, of the Grand Army of the Republic; W. Crowhurst, of the Occidental Lodge No. 3, Sons of Temperance; F. Tittle, of Norma Grove Druids; Adam Smith, of the Independent Order of Red Men; James A. Hall, of the Bricklayers' Association; C. Killmeyer, of the Eureka Typographical Union; J. T. Gray, of the Plumbers' and Gas Fitters' Association.

The Committee was instructed to report at an adjourned meeting of the Convention to be held last (Friday) evening.

THE CELEBRATION AT SACRAMENTO.

Great preparations are also being made for a celebration at Sacramento, in which the citizens and public bodies in all parts of the State are cordially invited to nnite. Mr. C. H. Swift has been selected to act as President of the Day; Rev. J. A. Benton will act as Chaplain; Gov. Haight will deliver the address, and L. E. Crane will pronounce a poem. The exercises will be held on Front street, on the spot where the grounds for the railroad was first broken. There will be a large military as well as civic display. Most of the military from this city are expected to be present. It is stated that all other routes of travel to and from the city will be free on that day.

We are not advised as to the day on which the celebration will take place, bnt presume, if possible, it will be on the day on which the connecting rail will be spiked down. At all events, when that is done, the fact will be announced by the screaming of every steam whistle in the city, the ringing of bells, firing of salutes, etc. We presume that arrangements will be made for a similar demonstration in this city—that all may be made aware of the very moment when the great event takes place.

BULLION PRODUCT OF WASHOE.—The bullion prodnct of the mines about Virginia City, for the quarter endiug April 1st, was $2,040,885; total dividends for same period $588,000; total assessments $156,200. The above figures show an excess of dividends, over assessments, of $431,800, which sum represents the aggregate profits of the Virginia and Gold Hill mines for the first qnarter of the present year.

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17v17-qy12p E. P. HEALD, San Francisco.

Sheffield Scientific School
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This department of Yale College, instituted in 1840, and endowed with the National Land Grant in 1866, furnishes advanced instruction in the various branches of Mathematical, Physical, and Natural Science.

The School is under the direction of the President of the College, a Board of thirteen Professors in different specialties, and six assistant instructors.

Regular courses of study, leading to the degree of Bachelor of Philosophy, conferred by Yale College, are arranged as follows: 1—CHEMISTRY AND MINERALOGY. 2—CIVIL ENGINEERING. 3—MECHANICAL ENGINEERING. 4—MINING ENGINEERING AND METALLURGY. 5—AGRICULTURE. 6—NATURAL HISTORY AND GEOLOGY, and 7—SELECT COURSE.

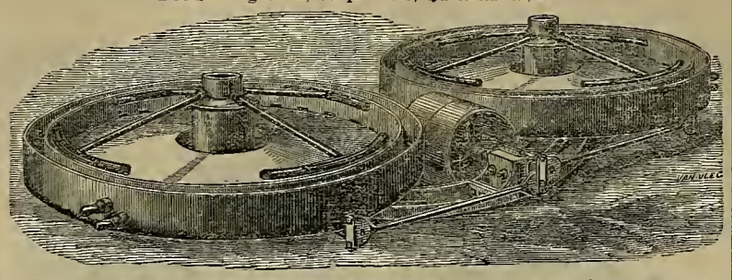
Advanced students are also admitted to optional courses, and if already College graduates, are received as candidates for the degree of Doctor of Philosophy.

Tuition, $135 per year of forty weeks.

The Libraries, Museums, Laboratories and Apparatus, accessible to students, are varied and extensive.

For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

HUNGERFORD'S IMPROVED CONCENTRATOR,
For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

San Francisco, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir*:—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868

MR. MORGAN HUNGERFORD—*Dear Sir*:—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

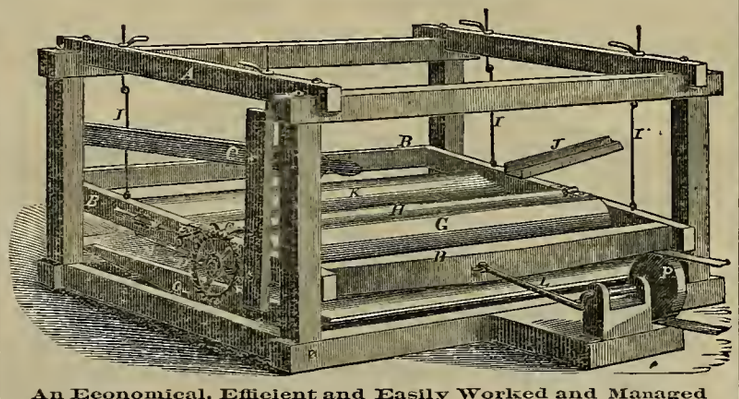
In future these Pans will be manufactured by GONNARD & Co., at the Pacific Iron Works, San Francisco, which is a guarantee that they will be built in the most substantial manner.

These Pans may be seen at the Pacific Iron Works, First street, near Howard, San Francisco.

Address,
GODDARD & CO., San Francisco.
Or M. HUNGERFORD, at the Pacific Iron Works.

18v17eow

BRYAN'S SELF-DISCHARGING ENDLESS BLANKET
CONCENTRATOR.



An Economical, Efficient and Easily Worked and Managed Machine.

This new and recently patented machine is fully described in the Mining and Scientific Press of Jnnuary 16, 1869.

It operates as follows:—The pulp from the stamp mill flows down the spout J, upon the upper end of the blanket surface, which is extended like a belt between the rollers (G and K), and indented by the smaller roller H, running on the top of the blanket close to G, so as to make a kind of trough beyond H, with a shelving bottom (K). The slope of the rollers and blankets is towards the left, being adjustable to suit the ore by the screws and rods I I, by which the entire blanket and roller arrangement swings in the wooden frame A.

Now an oscillatory motion is given to the swinging blanket frame B B, by means of the pulley P, and rod L. This causes the pulp and accompanying water at K to ripple down along the shelving channel in little wavelets, towards the point of discharge of the tailings E. For every oscillation of the blanket frame, the pawl F catches in a new tooth on the rachet wheel D, revolving the rollers, and so causing the blanket channel, and upper surface, to move from us, and to carry the heavy particles up the shelving slope K, and over the farther roller, into a tank underneath N, which is filled with water to wash off the sulphurets, which are deposited in the tank. The heaviest and best quality of sulphurets will be found at the upper end of the tank under K.

ALFRED BEMIS, Agent, Warren, Idaho.

These Machines are manufactured by A. BRONSON, at Hobbs & Gilmore's, corner of Market and Beale streets, San Francisco. They are meeting with great favor, and giving general satisfaction wherever introduced. For rights in Idaho, address ALFRED BEMIS, Warren, Idaho. Full particulars can be obtained by addressing the inventor,

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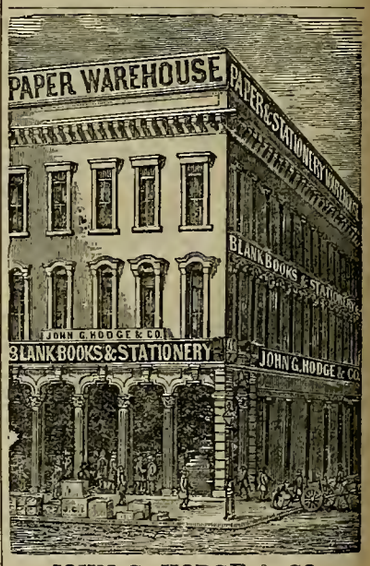

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, MAY 8, 1869.

VOLUME XVIII. Number 19.

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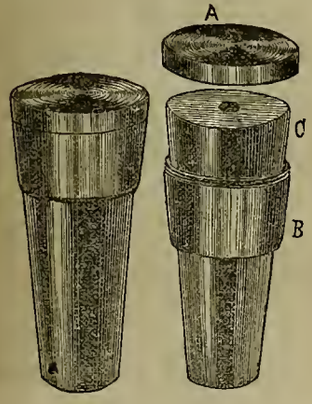
MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Colorado, Montana, Mexico, Nevada and Oregon.

San Francisco Market Rates.

Haviland's Ornamental Bottle Cork Top.

An ornamental cork or bottle top, for saloon bottles, being a recognized desideratum amongst bar-keepers, no less in virtue of giving an air of neatness to an establishment than the more utilitarian consideration of cleanliness, Mr. John T. Haviland, of the crockery and glassware establishment of Harviland, Hooper & Co. at No. 335 Pine street, has devised a material improvement upon the defective article commonly in use. Common bottle corks are generally capped with a silver plate top, held to the cork by means of a rivet or wire running through the latter, and clinching with a



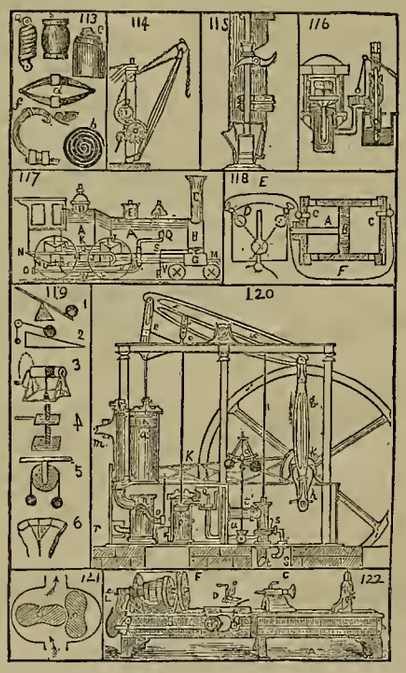
nut or soldered knob on the inner end, which is exposed to the acids and the alcohol of the liquor. The result is that the soldering is soon destroyed, the liquor contaminated and rendered injurious, while an unsightly end of corroded wire only is left sticking out.

Mr. Haviland's cork top will be best understood by reference to the annexed engraving. The right hand representation shows it in two separate parts; B, a ring fitting around the ordinary cone-shaped cork, and in such a manner as not to permit the latter to slip entirely through, and a top or end piece, A, which is screwed on the other. The left hand figure shows the cork top screwed together, as adjusted for use. Two additional important advantages are secured. The Haviland top affords width enough to enable the fingers to grasp and draw the cork by it, keeping the latter clean, while ordinary corks soon get dirty and bad looking, from frequent handling; and the present top is easily adjustable to any number of new corks in succession, never wearing out, or becoming worse for wear. Bar-keepers appreciate these qualities so fully, that of the ten gross of Haviland tops thus far manufactured, nearly all have been sold. A patent for the above has been secured through Dewey & Co.

Mechanical Movements.

CONCLUSION.

The larger cut, this week, concludes (from page 241,) our illustrations of the mechanical movements, by the aid of which we have taken our readers of an inventive



turn, through a direct and tolerable complete course in practical mechanics. Some of the most useful combinations, in every day working machinery, are represented—the crane, hydraulic press, stamp mill, steam engine, locomotive, lathe, gas engine, and blower.

113. The principal and most common variety of springs used in machinery: *a*, spiral spring; *h*, india rubber spring; *e*, the volute spring, made of sheet-steel wound, cone-shaped; *d*, elliptic spring; *f*, the C spring; *b*, coiled or watch-spring.

114. Common Derrick crane.

115. Sectional side view of a quartz mill battery. The mortar at the bottom is partly V-shaped, containing the die setting on the bed; stamp resting on the die; stem extending upward through the cross-timbers or guides; tappet on the upper part of stem resting on the cam that raises and drops the stamp, stem and tappet together at each revolution.

116. Hydrostatic press. Water forced by the pump on the right through the small pipe into the ram cylinder, and under the solid ram on the left, presses up the ram. The amount of force obtained is in proportion to the relative areas or squares of diameters of the pump-plunger and ram. Suppose, for instance, the pump-plunger to be one inch diameter and the ram thirty inches, the upward pressure received by the ram would be 900 times the downward pressure of the plunger. The same principle is applied in hydrostatic jacks, and for massive brick buildings.

117. Locomotive engine. The boiler, A A, and the engines, of which G is one cylinder, rest on the frame which extends from N to M, and contains the jaws and driving-boxes under the springs, as shown. The frame rests in front on the springs of the forward truck, of which X X are the wheels, and hangs behind on the equalizing beam K, extending to the springs. The circle H H represents the trailing-driver, and J J the leading-driver. B is the smoke-box, C the chimney, W the ash-pan, E the sand-box, and D the steam dome just forward of the cab. The line V G represents the piston-rod, U V the connecting-rod, and U U the parallel rod. T is the steam-chest, containing the valve; T, S the valve-rod, and S R the rocker arms on the rock-shaft. The link-motion extends between the forward driving-shaft and the arm R, and, with R S T, forms the valve-gear. The pumps P (forward of leading-driver) draw water from the tender through the feed-pipe O P, and force it into the boiler through the check-valve Q.

118. Improved Lenoir gas engine—a French invention. The piston-head D is represented midway of the cylinder; A, piston-rod; a gas jet is introduced with a quantity of air sufficient for combustion at each end of the cylinder alternately, and ignited by an electric spark by conducting wires E and F at c c. The electric spark is generated at the proper moment by the poles of the galvanic battery becoming momentarily connected by revolution at D.

119. The six mechanical powers which are the basis of all mechanical movements and combinations: 1, lever; 2, inclined plane; 3, wheel and axle; 4, screw; 5, pulley; 6, wedge.

120. Condensing beam-engine. *a*, steam-cylinder; *b*, piston; *c*, upper steam-port or passage; *d*, lower steam-port; *e e*, parallel motion; *f f*, beam; *g*, connecting-rod; *h*, crank; *i i*, fly-wheel; *k k*, eccentric and its rod for working the steam-valve; *l*, steam-valve and valve-casing; *m*, throttle-valve; *n*, condenser; *o*, injection-cock; *p*, air-pump; *q*, hot-well; *r*, shifting-valve, for creating a vacuum in the condenser, previous to starting the engine; *s*, feed-pump for supplying the boilers; *t*, cold water pump for supplying the condenser cistern; *u*, governor.

121. Sectional view of Root's patent blower for furnaces, etc. Air is drawn in through the lower pipe and forced out in the direction indicated by the arrows by the rapid revolution of the double vanes which closely follow each other and the inner side of the shell or case containing them.

122. Engine lathe. Upon the shears, or framing, A, stand the fixed head-stock, M, (which carries the spindle and face-plate, F,) the movable tail-stock, C, and the compound rest, D, which is moved longitudinally by the lead-screw, actuated by the feed, L, and upon which stand the tool-stock and tool-rest.

This series of mechanical movements, together with a digest of Patent Law, and other information valuable to inventors, will be issued by us in pamphlet form and circulated free, forming the most correct and carefully prepared patent circulars yet published gratuitously.

THE "EARTH CLOSET" AND THE TREATMENT OF WOUNDS.—The dry earth plan first suggested by the English curate, the Rev. Mr. Moule, promises to make him as famous among the benefactors of the race as the immortal Jenner. The wonderful improvement which it is capable of effecting in the sanitary condition of hospitals, is already beginning to be recognized. Still another mode of applying it has recently been introduced and practiced by Dr. Hewson of the Pennsylvania Hospital. A patient was suffering from a compound fracture of the leg. The wound, in spite of all treatment, was in a most unhealthy condition; and the excessive purulent discharges filled the ward with an insufferable and absolutely dangerous stench. The dry earth was applied as a *dernier resort*. The effect was magical. The odor was entirely destroyed; the wound moreover at once underwent a marked improvement,—and in a few days had a perfectly healthy appearance. Subsequent experiments with other patients were equally satisfactory. Not only old and unhealthy ulcers, but fresh lacerated wounds,—both of the soft parts and of bones,—and burns, were treated in this way; and in every instance, the effect, in the relief of pain, and prevention of excessive and exhausting suppuration, was all that could be desired. Surely a boon, as great as that conferred in the disarming of the destroyer small-pox, has here been vouchsafed to poor humanity.

TIME OF TRANSIT.—It is stated that as soon as the railroad is completed, and in proper working order, trips will be made from San Francisco to New York in six days. So that a person starting from this city on Monday morning will be landed in New York on the next Saturday evening. To accomplish this 27½ miles an hour must be made, without any allowance for stoppage; a speed readily attainable on a first class railroad. We shall soon be able to comprehend the advantage which the railroad will give to the inhabitants of this coast; in the way of quick communication with the Atlantic seaboard.

THE OFFICIAL REPORT of the last Mechanics' Institute Fair, held between August 8th and September 12th, 1868, has been published, embracing the reports of the several committies, and making a pamphlet of 94 pages.

BUSINESS is lively at the Wallamette Iron Works.

Communications.

[Written for the Mining and Scientific Press.

Development of Permanent interests in Mining Sections.

"A Miner" furnishes the following suggestions on the subject of fostering permanent interests in mining sections:—"The foot hills of California present a country rich in every natural resource. A fine climate, not excelled by Spain or Italy; hills covered with the white oak, the live oak, and the ground carpeted with the burr clover, alfalfa and wild oats, and beautified by flowers, with range enough of non-cultivated earth for the sustenance of thousands of cattle, sheep and hogs; yet their supplies of meat are driven from the southern countries and Texas, and the bacon and hams freighted at great cost from Oregon, through San Francisco. Thousands of tons of all kinds of vegetables are carried up the Sacramento river to supply the quartz miners and millmen who are distributed through this belt of mines. Thus the mines and mills, instead of having a producing country immediately surrounding them, and being themselves sustained, encouraged and made profitable by cheap and fresh supplies and plenty of labor, sustain a population hundreds of miles from wants and necessities. How to revitalize and people this beautiful country is the object of this communication.

Could the incubus which causes this abnormal state of things be removed, no part of the State would present so fine a field for diversified industry. Water power on the American, Cosumnes, Mokelumne, Calavaras, Tuolumne and Merced, are sufficiently numerous to move every industry that California may foster. Though there are no large areas of what would be called farming land, yet there are plenty of small valleys and sloping hill-sides which can be cultivated easily for cereals and planted with orchards and vineyards, with all the fruits of the temperate zone, and some bordering on the tropical, as the fig, lemon and orange. The finest fruit ever raised in the State came from this section. The mountain or foot-hill wines are pronounced superior to any imported from France or the Rhine, and the vineyards from which they were pressed are languishing in the hands of the proprietors for want of sufficient encouragement in the sale of their pure juice, even to keep their families above want. Though newspapers daily tell their readers how profitable vine-growing and wine-making is, it is not, nor can it be, till their products can find a remunerative market without a cost for freight of 25 per cent. of its value.

I would suggest, in the way of legislation: First, that our national law gives place to a revised land system, stating especially, in plain law, that land shall only be sold to actual occupants, and those who mean to retain them for improvement. It would not only benefit this portion of the State, but it is an absolute necessity for every part of it where United States land lies, to prevent the fairest portions from being absorbed by the idle wealth of San Francisco, to the great detriment of its speedy settlement and prosperity.

Second—put all the land belonging to the government in the market for sale at $1.25 per acre, without any distinction as to whether mineral or agricultural. This will be favored by a large majority of the present residents. The importance of this can be realized or estimated, only by those who have seen the loss sustained, energies crippled and final despair and abandonment of what could, and probably would have been comfortable and permanent homes, had the settler obtained proprietary rights over his domain. The want of this ownership or absolute right to the land, has been the crushing blight of the country.

Where the land is claimed and occupied, respect the right and give the title, but compel the payment; have it also understood, explicity, that one individual has but *one right* to one claim, either mineral or agricultural, which should not be transferable for five years from date of title and payment. The object should be to encourage the many. If any one, after trying a tract, should find a mine on it, he could prospect it either as a mine or hold it subject to his leisure and the convenience of his agriculture or horticulture—neither need to give way till it was fully demonstrated which would be most valuable. Such a law would open this section more fully to settlement than has been done by the indiscriminate and wholesale grab which has been and is now prevalent. The wholesale destruction of timber and wood, for which the government has never received any compensation, would be stopped. The vandal despoiling of gardens, orchards and farms, which are overturned by the inexorable mining law, would cease, and the farmer, as miner and farmer, would judge for himself which occupation would be most profitable, and follow the same in a systematic manner, for the benefit of himself and his place. Thus the government would get pay for its land, every one would have a chance for a home, a farm or a mine, and the counties would receive the population necessary to relieve or distribute the heavy burden of taxation now barring them from large population. Under such a system emigration would be encouraged to come to the State; for no other portion could offer such chances for a certain return for labor. A great part of the mines are yet capable of producing from one to three dollars a day from old gold washings which the farmer settler could gather in the winter season, when in other sections he would remain idle and profitless. The quartz mines and mills would be a market for the surplus wood which would be cut to clear his field for seed or tree, also for much of his grain, vegetables and fruit. It is generally believed that there is much mining country yet undeveloped and unclaimed through these foot-hills. But a stranger cannot go into the seemingly wildest district and commence the opening of any appearing ledge without being soon disturbed with the fiat, "You're working on my claim."

The same names will be found on the record claiming nearly the whole district, comprising several square miles; in many places without any compliance with the laws of that district, and at others, with the merest scratching of a hole to be called "work on a claim." The remedy proposed would break up this wholesale grabbing. Even now the same errors are running "overland" with the speed of the railroad, contracting, griping and throttling every discovered mineral region in our vast interior. Prospectors on individual risks, and as agents for companies have gone and are going with the avowed purpose of discovering new ground, forming new districts, making their own laws, and gobbling the whole. The main purpose in the let-alone policy of the Government was to leave the mines as free as air. Selfishness and greed for speculation has sadly warped that purpose, and it is necessary for the protection of all that the license of the few be restrained, in order that every one may have a chance."

[Written for the Mining and Scientific Press.]

Origin of Our Amalgamation Processes.

EDITORS PRESS:—As much is being said just now about the origin of processes, it is a good time to put in a word or two about the origin of the "Paul & Wood" process. As to the "pan process," I know nothing of its origin, nor do I envy anyone the doubtful honor of having introduced a barbarous method, by which many million dollars worth of silver and mercury have been, and are daily being thrown away. But "J. S." is surely quite wrong in supposing that which is known as the *pan process*, (by which I understand treatment in *iron* pans, with or without chemicals) to be identical with the Mexican *fondo* process, in which a *copper* pan is used, in connection with "*patio* chemicals," or with ore containing the equivalents of these.

The leading feature of the fondo process is *the action of the cupric chlorides on the ores of silver*, and the *reproduction of these chlorides by the copper pan*, so that the substitution of the iron pan not only changed the process, but actually ruined it; and the absurd attempt to use "patio chemicals," or to obtain the patio reactions, in iron pans, was but little creditable to the knowledge or judgment of the individual who made it.

In the *Herald* of March 13th, is a long article on the so-called Paul & Wood process in which the origin, or discovery of the process is touched on very incorrectly. I seldom notice anything the "profane" papers say on such subjects, considering the PRESS to be the only qualified exponent on this coast, of matters metallurgical or chemical; but this article of the *Herald* contains statements so erroneous as to require comment.

The process was discovered by Mr. Wood, nine years ago, as he assures me. I know that he consulted me as to danger of explosion, and described his process and experiments with a quicksilver flask, in the fall of 1867.

In his experiments a few months ago, he extracted about *half* the silver, from ores which yield 90 per cent. by the *fondo* process. I obtained precisely the same results in an open iron mortar over a fire, and so can anyone.

The process may be a good one; I believe it is so, for gold.

While on the subject of the *Herald's* article, let me correct another mistake which is a gross libel on the metallurgical skill of the country, as well as on the character of the ores of the Kearsarge district. These, it states, are "very rebellious," and cannot be worked by any of the "old systems." All this is simply nonsense. The ores of this district *were* worked successfully in 1866, at the European metallurgical works in San Francisco; and if the same was not done at the company's works, it was simply because the means of doing it were not provided. When a furnace was put up, it was a very poor affair, and there was neither "scientific expert" or any other person present who knew how to roast ores.

Moreover, it is well known, to at least some members of that company, that a person in the vicinity has been ready at any moment, during the last year and a half, to work those ores without roasting, and get fine bullion too; and he has proved his ability to do so, as Mr. Wood will testify; and the process is one of the "old systems," if two or three hundred years will justify that designation but it can't be done in *iron* pans. "Let justice be done," etc.

CHARLES H. AARON.

Lone Pine, April 14th, 1869.

Vein Systems of White Pine.

Gen. Cadwalader, author of the latest map of White Pine and of all those portions of the accompanying pamphlet relating to its vein characteristics and geology—quoted approvingly by us in our issue of April 10th—writes a lengthy and able communication to the *Bulletin* of April 23d, in which he shows himself to be an observer of facts, and a thinker on the subject of the origin and phenomena of vein deposits, not ignorant of their chemistry and geology, but refreshingly self-confident, and profoundly disregardful of the labors, opinions, and even the existence of a score of writers recognized from having devoted the best part of their lives to the same subject, as authorities, and well known to the readers of this journal. We will leave Mr. Cadwalader peacefully in possession of his eruptive vein theories, whether molten or pasty, and his "*eighteen systems* of true fissure veins" and "one false N. W. and S. E. system"—no more and no less, from Cape Horn to Alaska,—and proceed to condense from his observations that which we consider definite enough to be of value if only in the least degree founded upon facts. Here are certainly systems enough to furnish every locating record with one, or several to intersect; and it is safe therefore to predict that destiny will bear the author's fame aloft, from the stock and change offices of Montgomery street to the highest summits of Treasure Hill. But there are others, equally competent, who do not hesitate to express their opinion that there is not such a thing as a true vein to be found on Treasure Hill—the gap between whom is certainly more than is "in a name."

White Pine, says Mr. Cadwalader, has ten distinct systems of veins in addition to the great northwest courses which, though false in some places, assume the diguity of true veins. The systems are as follows, viz:

Courses.	*Dip.*	*Distance of Parallels.*
No. 1—N. 5° W., and S. 5° E.	East.	22 yards.
No. 2—N. 12 E., and S. 12 W.	West.	20 "
No. 3—N. 15 W., and S. 15 E.	West.	24 "
No. 4—N. 25 W., and S. 25 E.	East.	22 "
No. 5—N. 25 E., and S. 25 W.	East.	20 "
No. 6—N. 45 E., and S. 45 W.	N. W.	19 "
No. 7—N. 75 E., and L. 75 W.	South.	18 "
No. 8—N. 85 E., and S. 85 W.	North.	20 "
No. 9—N. 80 W., and S. 80 E.	South.	18 "
No. 10—N. 75 W., and S. 75 E.	North.	16 "

The great northern courses, 1, 2, 3 and 4, successfully "contest the false northwestern courses" in giving marked features to Treasure Hill, while the eastern courses are distinctly obvious, not only on the Hill, but on the opposite Pogonip and Mokomoke mountains.

To No. 1 belong the Aurora, Eberhardt and North Point veins; including the Louisiana on the east, the Summit on the west, the Mammoth to the north, a vein seen in Treasure Hill tunnel, a point on Chloride Flat, and the apex of Treasure peak.

To No. 2 the Hidden Treasure, Emmereley and Featherstone.

To No. 3 the Copper Silver Glance, and Virginia.

To No. 4 the El Dorado, Bonito Juarez, Excelsior, Silver Sixpence, Chloride Flat, Eberhardt, and Standing Stone.

To No. 5 Aladdin's Lamp, West Virginia, and Hornet.

To No. 6 part of the Hidden Treasure, apparently, and the summit of Treasure Ridge,—presenting a well-walled, rich vein 12 feet wide at top.

To No. 7 the Keystone and two other veins in the Eberhardt, the California, the Phœnix, the Ervine, the Glacier, the Eclipse, and many other veins on Chloride and Bromide flats.

Nos. 8 and 9, not exposed by work, but obvious on both east and west flanks of the hill.

No. 10, the Post Hole, and Blue Bell.

A Congress of Veins.—In accounting for the Eberhardt deposit, Mr. Cadwalader says: A single vein is incapable of producing so much wealth. Nothing but a congress could achieve it. Seven different veins have conspired to produce this wonder, with a strong presumption of another being accessory. At the head of the ridge and at the foot of the cliff the Keystone and two other parallel veins of the eyetem No. 7, course N. 75° E., and these veins are intruded upon, and interlaced by a No. 1, a No. 4, and a No. 6 vein, and also by the Blue Bell, which has a course slightly transverse to the No. 7 veins, making what is called the south wall, inconsistent with the north wall of the Keystone. It will be observed that the north wall of the Keystone has the southern and characteristic dip of class 7, and its foot-wall should be concurrent. This is not so, and the dip and strike being both different, it is conclusive they belong to different systems. Leave the ridge either east or west and the three No. 7 veins will disentangle themselves and appear definitely and distinct. Scrutinize the north wall of the Keystone, and it will be found fractured by a N. 45° E. vein, that not only defaces its regularity, but degrades its ore to an unsatisfactory extent.

Accounting for Chlorination.—The presumption that the chlorination of the veins in Treasure Hill is caused by the ocean waters, is undoubtedly a mistake. Their effect would be superficial. A more profound cause is required to account for the phenomena, and that cause is the effusion of muriatic acid gases from below. If the ocean was the agent, how happens it that the Pogonip and the long range of mountains to the north and south, are excepted from its action? Treasure Hill is the exception. It has been fumed on by insidious gases from internal fires, and the chloride ores are commensurate in depth with the hight of the mountain.

Relative Age, and Intersections Forming Chimneys.—The east and west veins have their birth in regular order round by the north. The early veins are intersected and interfered with by those of later date, and are generally more metamorphosed than the north and south. The disposition is to pour out strength in certain places, *i. e.* make chimneys, so that a vein, in its course of four or five miles over the mountains, may make half a dozen chimneys, leaving the intervals weakly endowed with ore, and in some cases destitute. The succeeding systems may, in some cases, conspire to issue in and increase the size of the previous chimneys, while in others they will expire in the weak places of the preëxistent vein, making one the radical here and the other there, though in all places the respective veins are apparent to a conversant eye.

PHYSOLOGICAL EXPERIMENT.—Prof. Dickson recently made the following curious experiment: A few grains of barley were placed before a hungry pigeon, which at once began pecking. During this operation the brain of the pigeon was frozen by means of a spray of ether, and the bird being thus suddenly deprived of conciousness, ceased pecking, and remained for awhile as if deprived of life. At this moment the grains of barley were all cleared away, and the ether spray having ceased, the brain was allowed to thaw; the bird returned in a short time, as it were, to life, and the first thing it did was to continue pecking for awhile, though no grains were present.

Mechanical.

New Process of Tanning.—An new English plan for preparing hides is thus described:—After the hair and particles of flesh have been removed, and the hides cleaned by lime, the hides are placed in water separately, with the fleshy side upwards, and sprinkled with bran in proportions, varying according to their character, from 6 to 14 ounces for each. In this vat they remain until fermentation has taken place, which will be, in warm weather, in about two days, but in cold somewhat longer. After this they must be removed and scraped. They are then subjected to the action of mustard seed in the following manner: A vat is filled with a sufficiency of water to cover the skins, and to this water is added for every hundred-weight of the skins, when dry, five pounds of ground Italian mustard seed, and five pounds of barley meal. When these have been mixed with the water, the skins must be dipped therein, from 24 to 48 hours, according to circumstances. They are then taken out and partially dried. The dip has the effect to open the pores of the skins, and to render the tanning by means of bark much more speedy.

Cast-welding of Steel and Iron.—This is a new process for making steel-topped nails. A steel ingot mold, in two halves, which can be fastened together by bands and keys, is used. A file of scrap-iron, which is forged to the proper shape, and which does not fill the mold, is then heated to bright redness and placed in the mold. Melted cast-steel is immediately poured in to fill the vacant space. The union of the iron and steel is perfect. The ingot is then rolled to the proper shape in the usual manner; care being taken to drive the rollers slowly, as in working an ingot entirely of steel. The *Engineer* thinks the invention full of promise.

Potatoes a Preventive of Boiler Scale. *Engineering* lately examined the interior of a boiler which was entirely free from scale of any kind; and although it had been in constant use for 14 months, the hammer marks around the rivet heads were as clear and sharp as when the boiler was first set to work. The practice of the engineer had been simply to introduce some 25 pounds of potatoes into the boiler every week, at the safety valve, after blowing off and refilling. The effect was found to be that all the solid matters were deposited by the water in the form of an extremely fine powder, which was completely removed when the boiler was blown out.

"Of the manner,"—says that journal,—"in which the potatoes act in preventing the formation of a hard scale we have not yet been able to arrive at a satisfactory explanation; but that they do prevent it is a fact which it is well worth while to record, particularly as, unlike some other "preventives," they give rise to no injurious action on the boiler plates or fittings."

Camera, Torpedo and Electric Battery.—The Antwerp engineers have planned an ingenious arrangement for defending the passage of the Scheldt;—blowing up the ships of an enemy, while looking on at their leisure "from afar off." Torpedoes are placed in lines at proper distances; and the camera on shore so arranged that the image shown in it indicates the moment when a ship is directly over a torpedo. At this instant the infernal machine is exploded by means of an electric battery, which is in connection with it.

The Henry-Martini Rifle.—The English Government Special Committee have finally recommended the adoption of a composite rifle made up of the Martini breech mechanism and the Henry barrel. The committee has been in session nearly two years.

Machine Dentistry—Ingenious Device.—A Michigan correspondent of the *Scientific American* describes a little apparatus, contrived by a resident dentist, for dressing out and under-cutting the cavities in teeth before filling them, for dressing off the foil after the filling was completed, and for polishing. A reciprocating motion was added for sawing or filing between the teeth. It was a very small rotary engine, operated with compressed air furnished by two pairs of common bellows worked by the foot. The engine weighed but 8¼ ounces. The air was conducted to it from the bellows by a ¼ inch rubber tube. The small burrs driven by it, rotated at a speed of 4000 per minute. With this apparatus, the ordinary work of one hour could be accomplished in two minutes.

Promoters of Vaporization.—This term was applied by Faraday to solid bodies introduced into a liquid, near its boiling point, to "start" ebullition—in other words aid the escape of vapor. From a paper recently read by Mr. C. Tomlinson before the Royal Society, the *Mechanics' Magazine* quotes the following:—"Among these "promoters," coke and charcoal are the most active, and the results of some experiments made suggest the introduction of a bushel or two of one of them into every steam boiler. Thus, when water was boiled for twenty minutes in a glass flask alone, 995 grains boiled away, but when some pieces of coke were added, 1,130 grains of water boiled away in the same time. An experiment with wood charcoal had more striking results. Water was made to distil freely from a still, and the quantity collected in fifteen minutes was weighed. Some pieces of charcoal were then added, and the distillate again collected during the fifteen minutes. From the water alone 262 grains were collected; from the water with charcoal, 334 grains; that is, upwards of one-fourth more water was evaporated when the charcoal was used."

Breaking Iron and Steel Masses.—Pieces of cast iron of considerable size are very difficult to break up. The following method has been practiced successfully at the works of Petin & Gaudet: A round hole, two or three inches in diameter and ten to twelve inches deep, is bored in the mass to be split; this hole is filed with water and closed by a closely-fitting steel cylinder, upon which the drop is allowed to fall from the usual hight. The mass is thereby split into several pieces, as if by a strong wedge with several faces. The water cannot escape, and its endeavor to do so bursts the metal. In this way a plate roll of 29½ inches diameter was split into four or five pieces, which flew twenty or thirty feet away from the drop. The hole must be hermetically closed, and in order to do this thoroughly it is necessary to hollow out the base of the steel cylinder into a cup-shaped form, the edges of which are driven against the walls of the hole by water, in its efforts to get past.

To Coat Iron with Silver.—Cast iron can be coated with silver by means of a moderately strong galvanic battery, by using the following:—One ounce of lunar caustic is to be dissolved at a boiling heat in sixteen ounces of distilled water, to which, diluted, two ounces of cyanide of potassium are to be added. The whole is then to be mixed with forty-eight ounces of water, in which one ounce of salt has been dissolved. The cast iron is to be freed from any oxide just before silvering, by means of weak nitric acid applied for a few minutes.—*Iron Age.*

Dry Ore Concentrator.—A New Yorker named Pearce has patented a concentrator which consists of a revolving distributor from which the dry pulverized ore is thrown by centrifugal force. The heaviest particles fall, of course, at the greatest distance from the center; and thus the ore is seized in concentric rings or receivers, each of which has its brush or scraper revolving within it.

Device for Joining Belts.—A late English invention consists in a slotted piece of iron through which the two ends to be joined are inserted,—both in the same direction. Between these, on the opposite side, is placed an iron wedge, furnished with teeth upon both sides to prevent its loosening when the band is slackened.

Scientific Miscellany.

Effect of Light on Mineral Oils.

Herr Grotowsky, at a recent meeting in Halle, Germany, made some communications on a new property of photogenic hydrocarbon oils, discovered by him. In exposing such oils to the influence of light by means of glass balloons, he found that they absorbed oxygen and converted the same into its allotropic condition, ozone. It was found that the air was even ozonized in well-corked vessels, the effect being to some degree also dependent upon the color of the glass. By "photogen" oils from peat or bituminous coals, are meant those which distil between 212° and 550° Fah., and are of specific gravity 0.795 to 0.805. The term "solar oil" is given to oils of from 0.830 to 0.835.

The observations were to the following effect:

Photogen and solar oils stored in barrels and cisterns lined inside with iron, remained free from ozone, and their burning was faultless. Oils kept in balloons of white glass, wrapped in straw, showed traces of ozone, but burned well otherwise; in white glass painted black, exhibited traces of ozone; in unwrapped and white glass balloons which had been kept in the open air, gave very strong indications of ozone,—burning very badly, charring the wick, and nearly extinguishing the flame after burning for six or eight hours.

Solar oil, which had been exposed to light in unwrapped balloons of green glass gave strong indications of ozone, but though the wick charred, burned well; in green balloons, painted black, contained ozone; it burned, however, perfectly well; in green balloons wrapped in straw, gave indication of ozone; it burned like the former.

American kerosene from petroleum, which had been exposed to the light in white and unwrapped glass balloons, had become strongly ozonized, so much so that it scarcely burned; some which had been kept in the dark for three months did not show ozone, and burned perfectly well. These experiments were made by exposing the oils tested from April to July, 1868. Prof. A. Ott, from whose article in the *Journal of Applied Chemistry* we condense the above, says:

Though the experimenter favors the opinion that the oxygen of the air, in being absorbed by the oil, and converted into ozone, does not effect any chemical change, but remains simply absorbed, it cannot be seen why such oils should deposit carbon when burned. They should, on the contrary, burn better. There is only one way possible, by which we may account for the decrease in the illuminating power, viz.: The ozone seizes a part of the hydrogen and forms water therewith, while a higher carbonated oil remains."

New Chemical Relations of Aluminum.—Prof. Henry Wurtz says that the result of his experiments with aluminum is the conclusion that the normal and *stable* form of that metal corresponds to the "passive" (usually *unstable*) form of other metals. Under ordinary circumstances it is in an *electro-negative* state towards oxidizers, but when in absolute chemical contact with quicksilver, it assumes an abnormal state, corresponding to the normal states of sodium and potassium,—and is intensely *electro-positive* with regard to oxygen and water. A leaf of aluminum thrown upon a clean pool of quicksilver, instantly adheres to its surface, but only from the cohesive attraction of the metals,—for there is no oxidation. But if now the edges of the leaf be *torn*, real *chemical* adhesion between the two takes place at the torn edge, and the leaf will gradually be changed into a white feathery hydrate of alumina. The passive (or repellent to quicksilver) film, extends to some depth from the surface; unlike the corresponding film upon *gold*, which is exceedingly thin.

The Mound Builders of Tennessee.—Dr. Joseph Jones contributes an article upon this subject to the *American Naturalist* for April. He made explorations of several of these mounds; and describes stone implements and pottery, pictures and carvings of the sun and moon, skeletons and stone coffins, vases and copper ornaments, arrow-heads and shells. It is not very easy to understand from the article whether or not Dr. Jones considers all these remains as belonging to the same age. He speaks of the mound builders as worshippers of the sun, and says that circumstances point to Mexico as their native country. In another place he says: "The important conclusion which we draw from these investigations is: That the race which erected the mounds and fortifications of Tennessee was existing and active at the time of the discovery of North America, and possessed the country with a numerous population, even as late as the exploration of De Soto.. This conclusion, which is at variance with the theories propounded by various ethnologists of Europe and America, who assign a considerable period to the extinction of the mound builders, will be still farther sustained by the remarkable discovery which we have made during the progress of these investigations, of the cross, emblems of the Christian religion, and especially of the Trinity, the Savior and the Virgin Mary."

In another place, again, he says: "That the aborigines of Tennessee were idolaters, is manifest from the stone and clay idols, which have been found in various portions of the State, some of which were found in caves, and others upon the summit of high mounds."

Expansion of Freezing Water.—Prof. Van der Wyde, in the *Gaslight Journal*, says that he has experimented upon this point, with great care, down to a temperature of 20° below zero. He finds that ice possesses its greatest volume at 32° Fah., and then contracts, as it cools, like most bodies; but never down to the volume which it occupied before freezing. He adds:

"Sometime ago an English savant asserted that ice expanded when cooled to very low temperatures; this opinion was based on the observation that a bombshell filled with water, and which had not burst by the freezing of all the water, finally did burst when cooled to below 0° Fah. But the cause of this bursting was simply that the cooling and contraction of the iron shell was previous to that of the solid nucleus of ice; it became therefore at very low temperature too small for the ice ball contained in it; ice being a poor conductor of heat, an ice ball will be slow in contracting by cold to its very center."

Bottom of the Sea.—The mud at the bottom of the sea consists largely of organic matter, more or less decomposed, interspersed with minute round bodies, about sixteen one-hundredths of an inch in diameter, called cocospheres and cocolites. Immense numbers of minute shells are also found. The mud is excessively sticky, being rendered so by minute pellets of a jelly-like consistence. These are found to contain great numbers of granules, from one four-thousandth to one twenty-thousandth of an inch in diameter, undoubtedly organic in character, forming one of the representatives of the common ground between plants and animals.

Diamond Making.—Mr. Sorby finds that the microscopic cavities in diamonds, described by Sir David Brewster, are enclosed crystals. Of these the *Chemical News* says: "The crystals enclosed in diamonds are frequently seen to be surrounded by a series of fine radiating cracks, which are proved to be the result of the contraction suffered by the diamond in solidifying over the enclosed crystal, and this explanation has been artificially verified by examining crystals formed in fused globules of borax glass, cooled slowly, when the same phenomena are seen."

Minute diamond crystals may be deposited upon one of the carbon points of a battery, produced by the fusion and re-crystallization of the carbon from the other point. The following experiment has been made in France: "A piece of charcoal was subjected *in vacuo* to the concentrated rays from a powerful burning glass, and at the same time to the galvanic current from an immense battery. It is reported to have *volatilized without fusing*. It now remains,—suggests the *American Journal of Mining*,—for our modern diamond-makers "to subject carbon to a heat as intense as that of the last-mentioned experiment, removed from contact with the air, and under a pressure sufficient to prevent its volatilization."

A Uniform Source of Light.—For the purpose of experimentation on the measurement of luminous intensity, Mr. Crookes used, as a uniform source of light, a glass lamp containing a mixture of five volumes of alcohol, and one volume of benzol. The wick consisted of fifty-two pieces of platinum wire of 0.01 inch diameter. The flame burns at the uniform rate of 136 grains per hour.

Engineering.

BLASTING.—Some of the mine owners at Grass Valley are at loggerheads with their underground men on the giant powder question. The latter say that it causes headache, and that its gases are injurious to health. Of such injurious effect in frequent cases that are given, there can be no doubt; but it is claimed that it is not the gases after explosion but during the handling, that operate injuriously, and the manufacturers are said to have recently employed new ingredients, with a view to avoiding even that objection. There appears to be no dispute, from any quarter, of the claim that the giant powder offers important advantages on the score of economy—the use of the single hand drill, to forty per cent. more of execution, while the cost is not near in the same increased proportion. Mixture of nitro-glycerine with silicions, or other matter, has done away with nearly all of the danger of that explosive,—though we hear this week of a fatal accident at Manzanita Hill on the Yuba, where the remnants from a failed and drawn charge were set off by "sounding" some loosened rocks with a sledge. The risks with the giant powder do not appear to be greater, however, than with the common nitro-carbon powder. Though nitro-glycerine is still the operating agent, its physical properties and the tendencies to decomposition are so different, as to render the present substance worthy of a new name. Why it has been baptised giant powder in this country, when the inventor and the rest of the world have always known it as dynamite, appears less clear, unless merely the policy of introducing a new thing by a good name.

Great blasts are the order of the day. It can be reckoned out mathematically, that the more powder, the less outlay is there per cubic yard. But in point of fact, as demonstrated by the cash principle, it seems that even mathematics may be thrown relatively amongst the inexact sciences. The cost of working away rock or gravel enters so largely into the economy of large blasts, that the Smartsville experiment of December with 15 tons, though successful as a blast, is considered by many of the miners to have been practically a failure. In solid rock at Lime Point, Cal. Mendell has been using a still larger quantity, but to what advantage a few months work will determine better than can be done at present. The Smartsville ground had not all been piped down at last accounts.

RIVER IMPROVEMENTS.—Messrs. Fassett and McCaulley are engaged in cutting a new navigation channel through the right bank of San Ramon creek, Contra Costa county, two miles above its mouth, where, by opening a distance of 150 yards, the steamer's time from the bay to Pachcco, can be reduced twenty minutes. By thus shortening and straightening the channel it is believed also that the water will be deepened in the flats.

A correspondent of the *Union* reports that the Commission appointed by the last Legislature—the State Surveyor General, John W. Bost, Wm. S. Green of Colusa, and Amos Mathews of Yolo,—to devise or determine the practicability of a plan for the protection of the low lands of Sacramento Valley, by cutting a new outlet into Suisun bay, are giving great attention to the subject and have in view a plan by which the waters of the rivers may be controlled and carried through a new outlet into the most eastern branch of Suisun bay. It is understood that the plan contemplates tapping the Sacramento at two or more points, one of which will be opposite the mouth of the American river. On account of the constant filling up of the rivers and low lands it is deemed a necessity that a new channel should be made.

The work of dredging the channel at the mouth of the Willamette is progressing rapidly, says a Portland telegram of April 26th, and the continued low water favors the work at this season.

San Lorenzo creek periodically commits great depredations in the town of Santa Cruz. During the past two winters it has been encroaching, says the *Sentinel*, on the western bank, opposite the Blackburn orchard. F. A. Hihn, two years ago had piles driven across the head, but they were soon washed away. He is now engaged in filling in the channel with brush, and topping off by gradiog with clay and gravel. It is proposed to continue the improvement until the river current makes a channel east of the piles now standing, when the break will be mended by a double row of piles and the enclosure left to fill in with driftwood and sediment, from the winter freshets. A straight channel being thus secured, it is believed that twice the usual quantity of water will be carried through it without overflowing.

BRIDGES.—The Marysville *Appeal* says that city now possesses the longest bridge in the State—that completed across the Yuba and the land it overflows. It is one and one-eighth of a mile in length.

A new self-supporting heavy frame bridge, of more than sixty feet span, is being now erected over Walnut creek, at the lower crossing, in Pacheco, Contra Costa County.

BLOSSOM ROCK.—A contract has been let for removing Blossom Rock, in San Francisco harbor,—about 10,000 cubic yards,—to a depth of twenty-four feet at low tide, for $45,000 currency. The highest part of it is now five feet below low tide.

COMMENDABLE.—The following paragraph appeared among the telegraphic news of Wednesday evening:

"It has been determined that no appointments for Principal Examiner in the Patent Office shall be made from persons outside the Bureau; experience in the busines being required."

Perhaps no business has suffered so much from the previous system of rotation in office as that of the Patent Office. From its nature, it is impossible for a new man, however well he may be skilled in any particular art or science which may become his especial charge, to fulfill the duties of the office satisfactorily, as an Examiner. The Patent Office is filled with models of inventions patented, rejected and pending, and it requires the familiarity of a long experience with the business and in the usages of the office, to detect and understand the patentable parts of an invention. The appointment of men to these important positions simply because they are friends to the political party which may happen at the time to be in power, has been very damaging to the interests of inventors, and we are glad to see another step taken in the right direction.

VELOCIPEDE LAW.—It may be interesting to velocipedists to know that some of the conflicting patents on this vehicle are now before the Eastern courts, and it will probably soon be determined how far the manufacture can be controlled by individuals. There are at least three important patents, either of which will claim a royalty if successful. One, the McKenzie patent, owned by W. Smith, was granted in 1862 on "a centering hobby-horse," and has lately been re-issued so as to cover as far as words can do it, the present machine, or at least the use of cranks. Another, the Lallement patent, also claims the use of the treadles, and is owned by Calvin Witty; while a third, the Haulon patent, claims the bifurcated reach or perch, the variable cranks and the adjustable saddle. Suit was brought by Smith against Witty in the United States Circuit Court, on the 5th of April, and a motion for Witty to show cause why redress should not be granted, was to be argued. Meantime, each of the claimants are serving notices on the different manufacturers, to desist, or "pay up."

ARTICLES on Woodside's rubber carriage and wagon spring—a valuable invention of almost universal application; and on a new quicksilver region in Mexico, are unavoidably crowded out till our next issue.

WEEKLY STOCK CIRCULAR.—On account of the Railroad jubilee to-day our paper is issued earlier than usual, and we are under the necessity of omitting the Stock Circular.

California Academy of Sciences.

A regular meeting of the Academy took place on Monday evening, May 3d, the President, Dr. Blake in the chair.

NEW MEMBERS.

Messrs. Herman Simon, Siegfried Simon, and Eugene Arnstein were elected members. Mr. Heyneman was proposed for membership.

LIBRARY, ETC.

Besides the usual large budget of scientific periodicals and society exchanges, donations were reported from Prof. W. P. Blake of his Geographical and Geological Notes of Stickeen River, Russian America, and Report on the Precious Metals at the Paris Exhibition.

Communications were received from a Reading (Pa.) Scientific Society, relating to exchanges, etc.

MOLLUSKS IN THE SAN JOAQUIN TULES.

Mr. Henry Carlton presented verbal and written notes descriptive of seventeen species of shells found in the San Joaquin tules, nine miles above Antioch, mainly fresh water, and of interest, because on the verge of tide water where they are occasionally covered with salt water.

Mr. Bloomer said similar species were found at San Diego and beyond. The *oscalons* were common in Mexico, in producing which, this region resembled Mexico. There was a region of sand-hills beyond Mt. Diablo, near the water, which seemed to produce peculiar conditions for their existence.

ACCLIMATIZATION OF FISH.

Dr. Gibbons made some suggestions with regard to the possibility of acclimatizing on our coast some of the best Eastern market fish; shad, for example, and other species not now existing here. Collecting eggs of fishes, and their distribution without cost, he said, had been inaugurated in the Atlantic States, and supplies could be had. He inquired whether trouffles (?) existed here. (Dr. Blake thought there was a species). Hogs and dogs indicated their presence; some persons were affected by them in passing over them.

STATUS OF MULBERRY AND SILK CULTURE.

In regard to the mulberry, Dr. Gibbons said in '64 there were four million trees growing. Each tree produced ten cuttings. Now there were about fifteen millions growing. The designs of the State bounty had been defeated on account of the demand for cocoons—no silk whatever being made. State bounty has been paid for these worthless cocoons. A friend informed him that there would be silk premium demands large enough to empty the coffers of the State—say for about $500,000. Newman could not get enough of silk, scarcely, to make two flags—one for the State, and one for the U. S. States Capitol.

RAMIE.

In regard to the cultivation of the ramie plant, Dr. Gibbons said there were two species of it. The Canadensis or Indian hemp, had long been cultivated in China, and was known as China grass. It had a small seed, and was usually cultivated by root cuttings, and stands drought. In Louisiana, three crops could be raised a year. It is treated much like flax, and may be prepared for manufacturing in twenty-four hours after cutting. Specimen presented by A. J. Moulder. In England and France it is mixed with cotton, wool and silk. The opinion was expressed and concurred in that California would be its proper home.

Mr. Bolander said he had correspounded with Dr. Ferd. Mullor, of Melbourne Botanical Gardens, who said it did well there. Then it surely would do here, but it needed cheap labor.

Dr. Gibbons said he was informed from England that there would be a great demand for the ramie shortly. A few ounces of seed had been sent to California by English merchants.

NEW ZEALAND FLAX FOR PAPER.

Mr. Bolander said the New Zealand flax had been used in Australia for making paper, and was the best article for the purpose that could be had. It grew everywhere luxuriously. There was an essay on ramie in Dr. Muller's Melbourne Botanical Garden Report. The tule lands of California would be just the thing for ramie, and also for the New Zealand paper plant, a specimen of which is to be seen growing in the post-office plot in San Francisco. It grew in wet or dry soil. For textile fabrics the latter was not firm enough. A gentleman near Vallejo had 200 to 300 acres of ramie in growth, and expected to profit largely by it.

Dr. Blake said it had been largely planted at Stockton.

DEVELOPMENT OF SEEDS IN CALIFORNIA.

Mr. Bolander said seeds always, of all plants brought here, developed large, and more thoroughly than elsewhere, owing to dryness of climate, and the favorable intense light of our climate.

OPIUM IN CALIFORNIA.

Dr. Gibbons was surprised that opium had not been raised here, considering its prices. One man could gather a pound a day. An insane man at Stockton had raised a very fine article—so pronounced by Dr. Tilden. It was the old-fashioned common poppy. Scratches were made in the head, in the evening; by morning the milk condensed, and the extract was then scraped off—requiring no additional treatment. Rain in the night destroys the opium.

TEAZLE.

Dr. Bolander said teazle was another plant of great demand, not raised here. It grows very rank in California, and develops better than in the Eastern States. It pays very well. A report is given of the cultivation of fifty acres, in the last Agricultural Department volume.

Mr. Bloomer said wild species grow at Saucelito, etc.

Mr. Bolander said they grew in Sonoma Valley also. With all these plants, so much needed, our farmers could do well. Their origin was southerly—Turkey and Asia Minor—and Chinese labor was to be had to carry out their cultivation profitably.

Dr. Gibbons said it was astonishing, when there were so many inventive Yankees, that no adequate imitation had been invented to take the place of teazle.

Mr. Bolander spoke of an old French farmer in the interior of New York who commenced growing teazle when all the others were extirpating it, and was laughed at for it. It is now grown considerably in Western States.

Dr. Blake said the freight and packing were considerations slightly unfavorable.

BASKET WILLOWS.

Dr. Bolander said we had no native willows in California that would stand twisting. Considering the quantity brought here in ships, for baskets—all of which were imported,—he thought the planting of basket, willows would pay well. Once planted, the stock was permanent. In gulches, etc., they would protect the soil.

Dr. Gibbons said Dupont's powder was made of willow and poplar charcoal. Between Wilmington and Newcastle, Delaware, there was a ditch planted with willows for that purpose. They were cut once in two years.

FOREST PLANTING.

Mr. Bolander said in regard to forest raising, it was known that several species of eucaliptus were never attacked by the *toredo;* therefore, several European governments had planted all their spare land with it. In ten years every tree would represent a cord of wood. As timber, it would bring twice as much as ordinary timber. California had more reason to guard her forests than the Eastern States. It was their duty to call the attention of the California legislature to the matter. Hill land, in tracts of 100 to 1,000 acres should be given favorably to private parties for planting. Forest-growing in the East, even, had paid; according to last Agricultural Reports it paid better there than grain raising on an average. We had ten or fifteen species here. He expected that the State University would devote large gardens to experiments in plants, to develop our resources. Melbourne had done very much in that way. Reports were printed and circulated freely to that end.

SUBJECT OF ACCLIMATIZATION.

Dr. Blake said there was no country in the world where an acclimatization society would be so useful as in California.

Mr. Bolander stated (in reply to Mr. Carleton) that a company had been formed in San Francisco to introduce the shad in California. As important as these matters were here, it was a pity and a shame that the Academy of Sciences was left so limited in its means.

Dr. Blake said farmers were raising wheat, when they might as well do other things that were more profitable. They would find it out in time.

Dr. Bolander said this State was best adapted to 10-acre pieces of land devoted to these special products, to which we are adapted. He mentioned a natural celery plant which was very good—growing on our hillsides on dry rocks. Adjourned.

FOSSILS AND COAL.—G. A. Lloyd, of Hamilton, has sent us some interesting fossils from the recently located coal fields at White Pine. They will be noticed soon.

Company Transactions.

New Incorporations.

New articles of incorporatien have been filed, as reported in our exchanges during the past week, in the County Clerk's office in this city, and the Secretary of State's office at Sacramento, etc., as follows:

MINING COMPANIES.

THE SWANSEA COAL MINING COMPANY, County Clerk's office, Treasure City, April 25th. Capital stock, $1,000,000, divided into 10,000 shares of the par value of $100 each. The property is situated along the road between Shermantown and Hamilton, and consists of four quarter sections of land.

THE SEDGLEY TUNNEL AND SILVER MINING COMPANY, San Francisco, May 3d. Location, Treasure City, White Pine. Capital stock, $1,000,000 ; shares, $100 each. Trustees—Abnor Sedgley, Geo. L. Smith, J. P. Rogers, W. C. Sullivan and T. R. Posey.

THE SOROCCO MINING Co., San Francisco, May 6th. Location, White Pine. Capital stock, 300,000, divided into 100 shares of $100 each. The Trnstees are A. K. Harmen, J. S. Rae, J. H. Jones.

MISCELLANEOUS.

UNION PACIFIC SALT Co., San Francisco, May 5th. The object is to manufacture, produce, import, export, buy, sell and trado in salt. Capital stock, $300,000; 3,000 shares of $100 each. Trnstees—John Barton, S. E. Oakley, A. B. Winager, S. H. Tyler, and A. W. Jee.

HESPERIAN LAND, SAVINGS AND LOAN ASSOCIATION, San Francisco, May 4th. The object is to buy and sell real estate and to loan money. Capitnl stock, $50,000, with the rigbt to increase the amount to $100,000. Number of sbares, 20, of $2,500 each. Trustees—R. Abbey, Charles Elliott, Hermann Schnessler, E. A. Derricke and John McKewen.

CARSON RIVER, WALKER LAKE AND SILVER PEAK WAGON ROAD Co., organized at Wadswortb, Nev., April 30th, and incorporated at Carsou. Trnstees—E. M. Geiger, H. Allurah, T. G. Herman, G. W. Sawyer, A. Coffman, M. V. Gilbert and M. Raphael. E. M. Geiger bas been appointed President and H. Allurah Secretary. This road will open communication between Wadsworth and a large country to the soutbcast, comprising Silver Peak and Columbia districts, and will give a more direct road to Belmont, Ione, cte.

Meetings, Elections, Etc.

THE GARDEN TRACT HOMESTEAD ADDITION was organized in this city on May 4tb, as follows: President, A. S. Gould ; Vice-President, John P. Wiuchester ; Treasurer, W. G. Doolittle ; Secretary, F. B. Wilde ; Trustees—A. S. Gould, John P. Winchester. W. G. Doolittle, F. B. Wilde, J. K. C. Hobbs, J. F. Bradford and W. G. Frinck. The property is situated at South San Francisco, between tbe easterly line of the San Bruno road and the western line of the Garden Tract Homestead Association.

THE IDA SILVER MINING Co., on May 3d, elected the following Trustees ; A. Sedgley (President), G. L. Smitb (Treasurer and Secretary), W. A. Lampe, W. H. Howard, and R. A. Boyle. D. P. Bell was appointed Superintendent.

THE PALMER SILVER MINE, White Pine. The following named gentlemen were on May 3d elected Trustees for the ensuing year : W. H. Burnett, W. C. Sullivan, A. Sedgley, R. A. Boyle and Geo. L. Smitb. At a meeting of the Trustees A. Sedgley was elected President, G. L. Smith Secretary and Treasurer, and D. P. Bell, Superintendent. A unanimous vote of thanks was extended to the former Secrctary, J. M. Buffington, for the efficient manner in wbicb he bad conducted the affairs of the company.

THE PLANET COPPER MINING Co. M. M. Baldwin, William Patten and James McCloskey were, at the annual meeting in San Francisco, May 3d, chosen Trustees for the ensuiug year. J. C. Hutchinson was appointed Secretary and Treasurer. Tbe claim is in Williams' Fork District, Arizona Territory. Ore assays from 30 to 60 per cent.

CAYUGA CHIEF MINING Co. The followiug Trustees were elected at the annual meeting in this city, held May 3d : J. A. Eatou, G. W. Beaver, John Nightingale, J. P. Couch and R. G. Brown.

ORIGINAL HIDDEN TREASURE MINING Co. Trustees elected May 3d : G. W. Beaver, G. D. Roberts, E. B. Dorsey, R. F. Morrow, F. L. Castle, M. J. McDonald, S. Heydenfelt.

CHEROKEE LANE GRAVEL ROAD Co. Officers elected in Stockton : L. U. Shippee, President ; H. T. Compton, Secretary ; J. M. Kelsey, Treasurer ; Directors, C. Swain, W. D. Ashley, R. B. Parker, J. C. Gago, C. L. Robinson.

THE WHITE PINE MUTUAL MINING AND MILLING Co. Trustees elected, San Francisco, May 3d : John Grant (President), J. E. de la Montagnie (Vice-President), O. P. Sutton (Treasurer), John A. Stanley, F. G. Smith, John Nigbtingale and A. W. Blair. Thomas J. Owens was chosen Secretary.

THE CINDERELLA GOLD AND SILVER MINING Co., White Pine. Trnstees elected San Francisco, May 4th, when 3,732 sbares were represented : Nathan H. Seligman (President), A. Goldsmith, Joseph Benrimo (Treasurer), M. Mayblum and L. J. Henry. A. Martinon was continued as Secretary.

INDEPENDENCE QUARTZ M. Co. Trnstees, elected, San Francisco, May 5th : A. Wood, R. C. Beattie, and C. J. Klein. Alfred Wood was chosen President and Superintendent, and F. G. Smith Secretary.

SAN FRANCISCO AND OAKLAND R. R. Co. Directors elected, San Francisco, May 5tb: F. B. Atherton, Alfred A. Coben, W. C. Ralston, D. O. Mills and D. P. Barstow.

New Patents Issued to Pacific Coast Inventors.

FOR THE WEEK ENDING APRIL 20th.

DRAIN-TILE MACHINE.—Robert Gordon Carlyle, San Francisco, Cal., assignor to A. C. Robinson, W. J. X. Robinson, and J. H. Addison, assignor to John H. Wise. —89,199.

I claim 1. The combination of the shaft A and water tube with the core-barrel, having a conical spiral-bladed top, the lower die-plate M, and casing N, the whole arranged and operated substantially as and for the purpose set forth.

2. The combination of the vertically-moving core-barrel B, and its rollers *a a*, with the square shaft A, as set forth.

STILL.—George Johnston, San Francisco, Cal.—89,225.

I claim, 1. The furnace D, with the two flues E and F, and the adjustable slide, or damper G, for transferring, regulating, and stopping the heat, substantially as herein described.

2. The curved pipe T, and the valve V, or an equivalent device for converting the heating-chamber into a chamber of the still, substantially as described.

3. The device consisting of the heating-vessel A, together with the vessel B, with its chambers and passages intervening between the vessel A, and the refrigerating apparatus, when constructed and operating substantially as herein described.

4. Regulating the temperature of the chambers of the vessel B, by means of water passing through the pipe *i*, or an equivalent device, substantially as described.

New Inventions.

ONE-WHEELED VELOCIPEDE.—John Carroll, of McAdams, says the Yreka *Union*, is building a one-wheeled velocipede, which he is confident will " go."

A NEW CATCH.—The Nevada *Transcript* speaks of a new "catch," which is designed as a substitute for the spring usually applied to wagons, for holding the tail-board. It consists of a quarter circle of flat iron, on the under side of which are three notches. These can both be raised by a lever at one side, and the notches catch and hold the door at any desired position. The *Transcript* says the contrivance is exceedingly simple and looks as though it ought to work well.

THE FIRE IN THE GOLD HILL MINES is not yet fully subdued. It was found a day or two since that smoke and gas have increased to such an extent in the Crown Point, Kentuck and Yellow Jacket mines, that the workmen were again driven out, and the shafts reclosed and steam once more sent down. The *Enterprise* says that somebody asserts the fire is between the 700 and 600-foot levels, and it is expected it will soon be subdued. This assertion is like those the public have been fed upon for the last twenty days—somebody's guesswork. The fact is, the mines are on fire, and the fire cannot be reached and the mines cannot be worked until it is put out or dies a natural death.

THE GRAND ANTIDOTE OF THE NINETEENTH CENTURY.—It is impossible to stop the progress of the causes that produce disease. The only thing that can be done to check the march of sickness is to meet or forestall the disorders of the human family with competent antidotes. Among these counterblasts to physical infirmities, the PLANTATION BITTERS take the lead. This supreme tonic and alterative has no larger sale than any other proprietary medicine in the world, and the record of its beneficent effects is the most voluminous one that has ever attested the value of a medicine. Go where you will, you find enthusiastic praise of the preparation on the lips of every man and woman who has ever resorted to it as a tonic and alterative, and with an annual sale of five millions of bottles it may well be imagined that the good it does is almost limitless. ***

Weekly Shareholders' Directory, for Meetings, Assessments and Dividends.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Amador Co., div. $10 per share	Payable May 5, 1869	
Adriatic, Storey co., April 20, $1	May 22	June 7
Alpha Cons., Storey co., Nev., div. $2	Pay. June 19, 1868	
Accidental, White Pine, March 30, 25c	April 30	May 30
Belcher, Storey co., Nev., May 4, $5	June 5	June 24
Bowdeu, White Pine, April 14, 6c	May 29	June 14*
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Bullion, Storey co., Nev., March 21	Payable immediately	
Confidence, Storey co., Nev., May 4, $20	June 9	June 30
Cherokee Flat, Butte co., May 1, $5	June 3	June 21
Capital, White Pine, April 19, 10c	May 17	May 31*
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12 1868	
Central preferred Stock, div. 1½ per cent.	March 10, 1869	
Cordillera, Mex., March 16, $1	April 20	May 10*
Douglas, White Pine, May 6, 12½c	June 8	June 21*
Dios Padre, Mexico, April 29, $	May 31	June 21*
Daniel Webster, White Pine	Annual Meeting May 10*	
Eureka, div. $10	Payable May 13, 1869	
Elma	Annual Meeting May 17	
Edith	Annual Meeting May 17	
Enterprise, Nevada co., March 22, $1	April 22	May 8
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
El Taste, Sonora, March 22, 5c	April 23	May 17
Fogus, Amador co., April 23, $3	May 29	June 18
Glenwood, El Dorado co.	Annual Meeting May 7	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Charlot, Idaho, div. $2.50	Payable March 20, 1869	
Golden Rule, Tuolumne co, div. 50c	$ sh...Pay April 7, 1869	
Hale & Norcross, div. $6	May 10, 1869	
Hope Gravel, Nevada co, April 6, $1	May 10	May 31
Impertal, Storey co., Nev., div.	Payable June 20, 1868	
Julia, Storey co, Nev., March 19, $2.50	April 22	May 10
Keystone, Sierra co, div., $32	Payable May 6, 1869	
Kearsarge, Inyo co	Sale May 11	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Lexington, White Pine, April 28, 25c	June 3	June 23
Lettia & Poole, White Pine, April 23, 20c	May 31	June 24
Magenta, White Pine	Annual Meeting May 11	
Mocking Bird, White Pine, April 15, 10c	May 20	June 7
North Star, dividend, $5	Payable Aug. 15, 1868	
Onetda	Annual Meeting May 18	
Occidental, div. $2	Payable May 20 1869	
Overman, Storey co. Nev., March 20, $20	April 23	May 8
Phœnix, White Pine, April 27, 25c	May 27	June 26
Pacific Unassessable, div.	Payable June 18, 1868	
Pacific, Coal, Contra Costa co., Mar. 20, $4	Ap. 27	May 17*
Quail Hill, Calaveras co., April 2, $10	May 11	May 31
Rising Star	Annual Meeting May 17	
Rathbun, White Pine, April 19, $t	May 25	June 14
Sand Springs Salt, Virginia, div., $1	Payable May 5, 1869	
San Buenta Ventura	Annual Meeting May 20	
Siempre Viva, Mex., April 15, $1	May 21	June 7*
Savage, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1	Payable Jan. 5, 1869	
Savage, Virginia, Nev., dividend, $4	Payable March 4, 1869	
Senator, Storey co., Nev., March 26, 50c	May 1	May 28*
Silver Sprout, Inyo co. March 25, 5c	May 1	May 28*
Sierra, Douglass co., Nev., March 25, $8	April 28	May 11
Troy Ledge, White Pine, March 16, 15c	April 23	May 24*
White Pine Water, Lander co., April 14, $30	May 22	June 19
Williamantic, White Pine	Annual Meeting May 18*	
Williamantic, White Pine, March 22, $1	April 21	May 12
Virginia Cons., Storey co., April 14, $1.50	May 19	June 5
Virginia & G. H. Water Co.	Dividend, payable April 16, 1869	
Yellow Jacket, div., $5	Payable March 15, 1869	

Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD

	FRIDAY EVENING, May 7, 1869. Bid.	Asked.
MISCELLANEOUS STOCKS.		
United States Bonds, 5 20s, 1865, '67, '68	$ —	—
United States Bonds, 5 20s, 1864	—	—
United States Bonds, 5 20s, 1862	—	86¾
Legal Tender Notes	73¾	74
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	83	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l Bds, 7s, 1866	—	90
San Francisco City and Co. Bonds, 7s, 1863	—	90
San Francisco City and Co. Bonds, 7s, 1864	—	90
San Francisco City and Co. Bonds, 7s, 1865	—	90
San Francisco City and Co. Judg. Bds. 7s, 1863	—	90
San Francisco City and Co. Judg. Bds, 7s, 1864	—	90
Sacramento City Bonds	20	—
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	80	85
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	—	65
Spring Valley Water Co	66	66¾
State Telegraph Co	26	—
GAS COMPANIES.		
San Francisco Gas Co	80	81
Sacramento Gas Co	52	53
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	72½	—
Central Railroad	60	—
North Beach and Mission Railroad	72	73
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	160
INSURANCE COMPANIES.		
Spile's Insurance Company	100	—
Firemans' Fund Insurance Co	98	100
Pacific Insurance Co	122	123
Merchants' Mutual Marine Insurance Co	503	520
California Insurance Co	1200	1400
Union Insurance Co	98	100
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	85	90
MINING STOCKS—WASHOE DISTRICT.		
Alpha	37	38
Baltimore American	—	—
Belcher	18½	19
Bullion, G. H	26	26½
Crown Point	65	66
Code (Va.)	—	10
Confidence	32	40
Consolidated Virginia	6	9
Chollar-Potosi	242	243
Daney	4	4¼
Exchequer	18	—
Empire Mill and Mining Co	70	71
Gould & Curry	116	117
Gold Hill Quartz	39	40
Hale & Norcross	185	186
Imperial	79	80
Julia	—	4
Justice and Independent	13½	14
Kentuck	247	248
Lady Bryan	13	13¾
American	60	61
Occidental	24	25
Ophir	27	28
Overman	82	83
Segregated Belcher	8½	—
Savage	100	101
Sierra Nevada	175	180
Union	—	—
United States	—	—
Yellow Jacket	67	67½
MISCELLANEOUS MINING STOCKS.		
Amador (California)	270	275
Aurora, White Pine	10	18
Eureka, (California)	—	240
Golden Chariot (Idaho)	40	42½
Silver Cord (Idaho)	10	11
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocotillo, White Pine	10	—

San Francisco Market Rates.

Wholesale Prices.

	FRIDAY, May 7, 1869.
Flour, Extra, ₱ bbl	$4 75 @ $5 25
Do. Superfine	4 25 @ 4 50
Corn Meal, ₱ 100 lbs	2 00 @ 2 25
Wheat, ₱ 100 lbs	1 25 @ 1 50
Oats, ₱ 100 lbs	1 10 @ 1 75
Barley, ₱ 100 lbs	1 40 @ 1 50
Beans, ₱ 100 lbs	6 00 @ 7 00
Potatoes, ₱ 100 lbs	65 @ 80
Hay, ₱ ton	9 00 @15 00
Live Oak Wood, ₱ cord	9 00 @10 00
Beef, extra, dressed, ₱ lb	11 @ 12
Sheep, on foot	3 00 @ 3 25
Hogs, on foot, ₱ lb	5 @ 7
Hogs, dressed, ₱ lb	9 @ 10
GROCERIES, ETC.	
Sugar, crushed, ₱ lb	— @ 17
Do. China	10 @ 12
Coffee, Costa Rica, ₱ lb	19 @ 20
Do. Rio	18 @ 19¾
Tea, Japan, ₱ lb	75 @ 90
Do. Green	60 @ 1 25
Hawaiian Rice, ₱ lb	— @ 10
China Rice, ₱ lb	6 @ 7
Coal Oil, ₱ gallon	— @ 48
Candles, ₱ lb	16 @ 18
Ranch Butter, ₱ lb	25 @ 36
Rethune Butter, ₱ lb	35 @ 36
Cheese, California, ₱ lb	15 @ 18
Eggs, ₱ dozen	40 @ 45
Lard, ₱ lb	15 @ 16
Ham and Bacon, ₱ lb	14 @ 15
Shoulders, ₱ lb	7 @ 8
Retail Prices.	
Butter, California, fresh, ₱ lb	45 @ 50
do. pickled, ₱ lb	30 @ —
do. Oregon, ₱ lb	20 @ 25
do. New York, ₱ lb	35 @ 45
Cheese, ₱ lb	20 @ 25
Honey, ₱ lb	25 @ 30
Eggs, ₱ dozen	55 @ 60
Lard, ₱ lb	16 @ 18
Hams and Bacon, ₱ lb	20 @ 25
Cranberries, ₱ gallon	1 00 @ 1 25
Potatoes, ₱ lb	1½ @ 2
Onions, Sweet, ₱ lb	5 @ 5
Tomatoes, ₱ lb	5 @ 5
Onions, ₱ lb	3 @ —
Apples, No. 1, ₱ lb	4 @ 5
Pears, Table, ₱ lb	5 @ 7
Plums, dried, ₱ lb	10 @ 12
Peaches, dried, ₱ lb	10 @ 12
Oranges, ₱ dozen	75 @ —
Lemons, ₱ dozen	50 @ 75
Chickens, grown	75 @ 1 00
Turkeys, ₱ lb	30 @ 35
Soap, Pale and C. O	7 @ 12
Soap, Castile, ₱ lb	20 @ 22½

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, May 7, 1869.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 8c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.

Scotch and English Pig Iron ₱ ton ..... $45 00 @ $46 00
White Pig ₱ ton ..... 36 00 @ 37 00
Refined Bar, bad assortment, ₱ lb ..... — 03 @ —
Refined Bar, good assortment, ₱ lb ..... — 04 @ —
Boiler No. 1 to 4 ..... — 04½ @ —
Plate, No. 5 to 9 ..... — — @ — 01½
Sheet, No. 10 to 13 ..... — 04½ @ — 5
Sheet, No. 14 to 20 ..... — 05 @ — 5½
Sheet, No. 24 to 27 ..... — 05 @ — 05½
COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 3½c ₱ lb
Sheathing, ₱ lb ..... — — @ — 26
Sheathing, Yellow ..... — 20 @ — 21
Sheathing, Old Yellow ..... — 10 @ — 11
Composition Nails ..... — 21 @ — 22
Composition Bolts ..... — 21 @ — 22
TIN PLATES.—Duty: 25 ₱ cent. ad valorem.
Plates, Charcoal, IX, ₱ box ..... 12 00 @ — —
Plates, I C Charcoal ..... — @ 11 00
Roofing Plates ..... 10 00 @ 10 50
Banca Tin, Slabs, ₱ lb ..... — — @ — 35
STEEL.—English Cast Steel, ₱ lb ..... — — @ — 15
QUICKSILVER.—₱ lb ..... — 55 @ — 60
LEAD.—Pig, ₱ lb ..... — — @ — 8
Sheet ..... — 17 @ — —
Pipe ..... — 11 @ — —
Bar ..... — 0 @ — 9¾
ZINC—Sheets, ₱ lb ..... — 10¾ @ — 11
BORAX.—California, ₱ lb ..... — 35 @ — 38

BEET ROOT SUGAR.—The question of producing beet root sugar in this State is gradually increasing in interest, and we are pleased to note that an important experiment bas been made by Mr. Justus Beplar, of San Mateo County, to ascertain, definitely, the capacities of the soil and climate of Californuia for this valuable product. Mr. B. bas prodnced a sample of sugar pronounced to be equal to the best brands of imported cane sugar. It is well granulated, pure, and presents a thoroughly marketable appearance. Tbis experiment is considered one of much importauce and significance. Some idea of the value to wbich this interest may attain on this coast may be inferred from the fact that the sales of sugar by our local refineries for the quarter ending March 31st, amounted to an aggregate value of $748,593; or witbin a fraction of three millions a year. It is now pretty well settled that tbe Sacramento beet sugar factory will go into operation during the cnrrent year, and the company will be prepared to purchase all the beets which may be produced the present season. There can be little donbt that within a few years beet sugar will form an important item in the already long list of California productions. It may be interestiug in tbis connection.

THE FLAG FOR THE STATE CAPITOL.—It has alrcady been auuounced that the next legislature is to meet in the new capitol building, in Sacramento, and that the first assembling of tbat body there will be announced by tbe raising of a national flag, made exclusively of California silk. Mr. Newman, the pioneer silk manufactnrer in this State, has recently purchased the cocoons from which this flag is to be made. They were produced in Santa Barbara County.

HAVE you tried Muller's Brazilian Pebble Spectacles? undoubtedly the best in use; 205 Montgomery street, Russ Block. *

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

The Pennsylvania.—*Chronicle*, April 24: This week an increased force has been drifting north and south, and on both sides of the ledge, which has been laid bare between 40 and 50 feet. A quantity of the ore has been worked at a Nevada mill with satisfactory results. Their poorest ore, with a mill at the mine, will pay a profit of from $8 to $10 a ton.

The agent of the Schenectady (Tarshish) Company from New York, will arrive in Alpine soon, after a quantity of the Tarshish ore, lately sent to San Francisco, has been worked by the Paul process. We may now look for an early resumption of work in this valuable mine. It is probable that the company will erect a mill during the coming Summer.

Globe.—*Miner*, April 24th: This tunnel has a softer substance in the face than ever before, with quartz all through it, and some ore visible; all good symptoms.

BUTTE COUNTY.

Oroville *Record*, May 1st: The Merrimac Mill, at Swede's Flat, has been running during the month with good success. There has been no trouble in getting ore enough to keep a ten-stamp mill running night and day. They have been prospecting one of their ledges by sinking shafts. In doing so they have struck a chimney of rich paying rock.

MARIPOSA COUNTY.

The Mariposa Company.—*Mail*, April 30th: The company some time since contracted for 500 cords of wood at their mill in Mariposa, which is now being delivered rapidly. The pump will immediately be set in motion, and probably in five or six days, a gang of men will commence taking out rock.

NEVADA COUNTY.

Red Diamond.—*Transcipt*, April 27th: The owners intend to fit up a hydraulic power on their claim immediately. They have thoroughly prospected through their tunnel and drift, and at the last clean up declared a dividend. The gravel prospects first rate, and they can do the work more rapidly by washing off the surface, and afterwards running an open cut.

Paying Big.—We understand the quartz ledge, owned by Joseph Perrin and others, a short distance from Forest Springs, is paying big.

You Bet.—We are informed that there is not likely to be an effort to rebuild You Bet on the present site, and the gravel, which is thought to be valuable, will probably be washed off.

New Ditch.—*Transcript*, 30th: County Surveyor Bradley yesterday completed the survey of a ditch ten miles long, which, when built, will carry water from the Cascade ditch to the Pittsburg mine.

Another Strike.—*Gazette*, 27th: Some 25 or 30 miners employed by the Banner Co. refused yesterday to work with the single-hand drill, to use the giant powder, and were discharged. These, with those who left last week, make over 60 who have thrown up their situations rather than drill holes for blasting with giant powder. The owners are determined to work the mine in their own way.

Idaho.—Same 29th: This splendid mine keeps up its yield of the precious metal, and on Monday morning shipped $15,000, the result of two weeks crushing, with 15 stamps.

North San Juan.—Letter of the 28th to same: The miners up and down this ridge, from the township line on the East to French Corral on the West, are doing remarkably well. The mines at Sweetland, Sebastopol and Buckeye Hill particularly, are remunerating their owners with heavy dividends. At Kate Hayes and Empire Flats the miners are coining money, and if the supply of water holds out, there will, in my opinion, be more gold extracted in this township this season than there has been in any one season since the mines were opened. Water, cheap and plenty is what is now desired. Evans & Co., at Buckeye, are using 700 inches daily, but want 1,100 and can't get it.

Wm. Penn.—Same of May 3d: We are informed by Alex. Stoddard, President of the Co., that they are vigorously prosecuting the work. During last month they sunk 50 feet on the ledge and took out 55 tons of rock of good quality.

Allison Ranch.—Grass Valley *National*, April 29th: The water in this mine is being rapidly reduced. Both pumps are kept going day and night, and lower the water at the rate of about 25 feet per day. Fifteen days more will suffice to pump it dry.

Wisconsin Mine.—Same of 30th: Work is being energetically prosecuted. They are now taking out some very rich rock on the 300-foot level. The ledge is two feet thick and looks well. The rock, it is estimated, will run $75 per ton.

The Grass Valley *Union*, of May 2d, describes a test trial of the giant powder made at the Empire mine in the presence of several mining superintendents. A ¾-inch hole 26 inches deep was drilled, charged and fired in 90 minutes. The effect was greater than with the "black" powder. The conclusion reached by those present was decidedly in favor of the "giant."

The timbers in both the old and new shafts of the Allison are found to be perfectly sound, the water having preserved them efficiently.

PLUMAS COUNTY.

Meadow Valley.—Correspondence of Quincy *National*, April 24th: "Near the Tollgate, Robinson & Hunt, Edmonds & Co., and Nelson & Co. have started to pipe. On Clear Creek, Smith & Nelson have been working all winter, opening a claim, and have got some good prospects. On the main Meadow Valley Creek, four companies are at work, and some of them are doing very well. Jack Hanson & Bossel have also made good wages there. They are piping on the right bank of the creek, at the head of the valley. On Spanish Creek, Grace, Douglas & Co. have been busy at work for some time on Green Flat, and on the opposite bank, Warren Stagg and Mumford & Co. are also piping. Doc. Miller and Taylor are reported to have struck it very rich in a ravine, emptying in Silver Creek."

SIERRA COUNTY.

Fir Cap.—Downeville *Messenger*, May 1st: The claim continues to prospect as well as when pay was first struck. The gravel has widened out to about two feet, and is still increasing.

Webe.—A ledge three feet wide has been struck in the Webe tunnel, on the east fork, one mile and a half above town. The rock prospects well.

Ned Leonard has struck his ledge in the lower tunnel, and finds it solid, with casing well defined. The rock prospects equally well with that taken out above.

Alaska Mine.—The continued yield of extraordinarily rich rock enabled the company to declare a dividend on the 15th inst., of one thousand dollars to each tenth share, payable forthwith in coin.

Howland Flat.—The Union claims have again got quite an extensive bed of rich ground....The Monumental is doing well. ....The Pittsburg is also said to be doing well.

SHASTA COUNTY.

Rich Quartz.—*Courier*, May 1st: A Frenchman mining on Dry Creek, near Whiskytown, a few days ago found a piece of detached quartz rock, which, when pounded up, yielded over $200 in gold.

SISKIYOU COUNTY.

Cottonwood.—Yreka *Union*, May 1st: Quite an excitement prevails at Cottonwood over the rich quartz now being taken from their ledge by Meritt, Dewitt, Brown & Co. They are sinking on the ledge, and at every advance find the most encouraging prospects. The ledge is said to be well defined, and to increase in thickness as well as richness as they descend. It is the purpose of the company to erect a mill as soon as practicable.

TRINITY COUNTY.

Brown's Creek.—*Journal*, April 24th: George W. Ward has found some excellent prospects, with plenty of ground.

Weaver Creek.—The flume is working finely. Several men are sluicing on the creek, and considerable work has been done for two hundred yards above the head of the flume.

TUOLUMNE COUNTY.

Golden Rock Ditch.—Sonora *Democrat*, May 1st: Andrew Roca having purchased the interest of John H. Watts and Otis Perrin, in addition to that of Irwin Davis, in the Ditch, will lose no time in bringing the water into the Garrotes and Big Oak Flat. He is now in San Francisco purchasing pipe through which to force water across the gap formerly spanned by the big flume. When this is completed, lively times may again be expected.

ARIZONA.

Big Bug.—Prescott *Miner*, April 10th: Rich specimens are brought in from the Independence lode. At a depth of ten feet the vein is ten feet thick, and in a cut run across it at another point, it is over twelve feet in width. The ore is of the red, honey-comb sort, and very rich....The placer miners at work near the mill, and in the old Mexican Gulch, are making from $5 to $10 per day.

Hassayampa.—The only quartz mining now in this district is upon the Sterling mine. The new Superintendent, Mr. Widman, has taken hold of matters in earnest. There are over 20 men employed. The new batteries and pans are expected to arrive soon....The proprietors of the Chase mine are awaiting the arrival of the new machinery. They have several tons of tailings on hand, which they design working over....Placer mining is being pursued with success. We learn that no miner on the creek is making less than $5 per day. Joseph Young and S. R. Scott are working a high bar that is paying them about $10 a day to the hand. J. B. Slone has a bar that pays him about as well.

Walker's.—Very little is being done. It is rumored that the Accidental Co. will soon start operations.

Bradshaw.—Most of the miners have abandoned the Black Cañon diggings, owing to the high cost of living. Every pound of provisions costs the miners two dollars.

Wickenburg.—The Vulture Mining Co's 20-stamp mill was, at last accounts, turning out bullion rapidly. But a short time ago, Mr. Phelps took with him to California, over $50,000, and James D. Cusenbary, the old superintendent, took in $30,000. Before returning to Arizona, Mr. Cusenbary will probably organize a company to work his own claim on the Vulture. It is believed that another 20-stamp mill will be erected, and 20 stamps more added to the Vulture Co's mill. Many Mexicans are employed by the company. Reese & Krause's mill will not run for several weeks....A party had gone to prospect the big cañon of the Hassayampa, between Wickenburg and Walnut Grove, for placers.

Lower Lynx Creek.—The news is that dirt has been struck in the claims of Jackson, Lovejoy & Co., that will pay $30, and probably $50 a day to the hand. At present, we cannot say more than that it promises to eclipse all hydraulic mines yet discovered. The other claims on the creek are paying well.

Weaver District.—During the past winter, the old diggings known as Weaver Hill and Antelope have yielded well. Pieces as large as an egg are frequently found by Mexicans. The American miners are prospecting the deep bars in Indian and Antelope creeks. Formerly, these creeks were dry for two-thirds of the year, but this year their beds are filled with water.

Pima County.—The Apache Pass Mining Co's quartz mill is ready to work.

Yuma County.—Some Mexicans have found rich diggings up the Gila about seven leagues from Arizona City, and parties are rushing there. The gold is coarse. ....James Spann is working his gold ledge, near Gila City. He is putting up new machinery....The Germans have gone to work with their dry washing machines, and are taking out a great deal of gold....Mr. Butterfield and Jack Hamilton are working a galena mine at Castle Dome, and making it pay well. There is something in the rock that makes every white miner who works there sick. A man died a short time ago, from the effects of the poison ore.

COLORADO.

Terrible.—Georgetown *Miner*, April 15th: The machinery for the tunnel will be here this week. Work will be recommenced at an early day.

Equator.—The owners have purchased a large steam engine for their mine. It will be here in a short time, and be set up as fast as men and money can do it.

Messrs. Jackson & Way have returned from their new El Dorado, west of the Middle Park. Mr. Jackson has prospected all the streams flowing into the Grand from the Rabbit Ear range, and found float gold in all.

Spring.—The trails to the mines are open. Huepeden & Co. have made arrangements for ore to run their mill and cylinders up to their full capacity.

We saw this morning two bricks from Stewart's Works, Georgetown, weighing 453½ and 450 ounces; coin value, $831.82.

Idaho District.—Bennett, Wright & Co. are taking out good pay....Fitzpatrick & Co. commence sluicing this week, with tip-top prospects....Koons, Beazy & Co., half a mile below Masonville, are taking out good pay ...Reader & Co. are preparing to make a big run....The Clear Creek County placers will be working on a large scale this summer.

Gardner Lode.—Central City *Herald*, April 14th: Work is about to begin on Nos. 4 and 5 west. This property has lain idle four or five years.

Shaffer & Co. cleaned up $1,200 gold from three cords of surface quartz from the No. 1 lode. This firm have leased the Holman mill, at Black Hawk—12 stamps.

John Sensendiffer will start up his new mill on North Clear Creek at once.

Bullion Shipment During March.—Of gold dust, $150,665.12, currency value, was shipped, and silver bars to the amount of $6,713.68,—by Clark & Co.

We saw six bars of gold yesterday worth $800 each, the yield of Stanley & Stalkin's mine during one month. In addition these men have sold a large quantity of smelting ore, which brought $100 per ton. One hundred and ninety-three feet of cap was passed through before the rich body of ore was struck.

Clear Creek.—Dennis Favro has been taking in about six ounces of gulch gold per week during the past winter. Last week he took in ten ounces. The creek is in good condition for working. There are 14 companies now at work below Idaho.

Register, 15th: The prospects of the season are good. Mining is brisk, and every mill in order is at work to its utmost capacity. The amount of bullion is large and constantly increasing. Some old mines are shut down to await change in management, but others have been opened, and none are worked which do not yield a profit. The working of the ores is done with much more skill than formerly.

William Lynn, on Gregory No. 2, is down about 20 feet, and has levels started east and west in which his vein of pay ore is two feet in width. None of the ore has yet been reduced, but it prospects well. Several cords of it were yesterday hauled to Terry's mill, Black Hawk.

German Lode—Veto Lode.—An assay of surface rock yesterday gave $124.02 gold, and $28.60 silver, per ton. An average assay of rock from the Veto lode, Gilson Gulch, gave $350.33. Needham & Leighton are opening a promising silver lode, in Virginia Cañon, the surface rock from which yields over $200 per ton. William Hobbs has commenced working his Kangaroo lode, in Boomerang Gulch.

John Shaffer and party have struck a new lode on the hill. At a depth of twelve feet they have a pay vein three feet wide, which yields, under stamps, over $400 per cord. The material is mostly dirt, and easily taken out.

The Bars.—On Illinois Bar, the Schwartz claim is paying nearly an ounce per day to the hand. A patch of bedrock 4x5 feet, last week yielded eleven ounces. Mead & Co. are working a portion of this claim on shares, and doing well. Cooken & Co's claim, on Grass Valley Bar, is yielding six to eight dwts. per day to the hand. Bouzie & Co. have struck some rich diggings near Masonville, and Tirrell, Porter & Co. are reported as having found some rich diggings below Haines' Bar. The claim of Wright, Clenfield & Benuett is turning out its ounce a day to the hand.

The Mills on Lake Gulch—Russell Gulch.—Brastow's and Cheney's mills now have all the custom ore that they can crush. The Unexpected lode, above the Brastow mill, is furnishing a large amount. Two cords recently cleaned up 29 ounces. Mr. Perrin is hauling ore from the Pewahic, which yields seven ounces per cord. Mr. Reed is working the Delaware lode, near the head of Russell Gulch, and from a depth of about 370 feet is raising some rich looking ore. George Mitchell's 12-stamper in Leavenworth Gulch, is pounding away steadily, two batteries on Illinois ore and two on custom ore, mostly surface rock.

Boulder correspondence of Denver *News*, April 14th: "All join in predicting a busy summer in Jim Creek, Ward district, and in the vicinity of the great Hoosier lode. All the available stamp mills and arastras will be put to work. Of the latter, a number of new ones are to be erected. Mr. Thompson is mining on the Stoughton lode, and selling his ore to Prof. Hill, at Black Hawk. The transportation costs $37.50 per ton, and when the cost of mining is added, the total is not far from $50. He receives $160 per ton, leaving him a profit of about $100 per ton."

Proposed Smelting Works at Denver.—Messrs. Charles Halleck and L. J. Weber offer to agree with the citizens of Denver, to erect and have completed for operation in July, smelting works, consisting of a brick building 60x80 feet, with fire-proof roof, brick stack, at least 50 feet high, and of sufficient dimensions to attach six or eight furnaces, viz., two smelting, one roasting, and one cupel or refining furnace. In consideration of the above, they ask as a donation, from the citizens of Denver $7,000, one-half in cash, and one-half in real estate or merchandise, at a cash valuation. Other propositions of the kind have been made. The Denver *Tribune* says smelting is required in Denver, and that the best men of the town will support a subscription.

MONTANA.

Grizzly Gulch.—*Helena Post*, April 16th:

The upper district yields still its thousands, and work has commenced in earnest. The water only permits half a day's working at present. More pay dirt has been taken out this winter than during any previous, and huge piles of rich prospecting gravel are being hauled to the gulch.

BRICK.—The result of a two weeks' run of the L. X. L. Mill at Unionville was 240 oz.; coin value $4,037.

BANNACK.—Everything is activity. A large force is cleaning out the big ditch. Claims are being fixed up, sluice boxes put down, drain ditches made, and everything necessary to a vigorous season of mining.

GERMAN GULCH.—Lumber is piled up all along the gulch, and carpenters are making boxes. Edwards & Co. have laid a few hundred feet of flume, and the Eureka Company nearly as much. The big ditch is completed, all but some fluming and the finishing.

SILVER STAR.—A run of five days on the ore from the Iron Rod, by the Stevens & Trevitt mill, yielded about $5,000. The Green Campbell mill is running day and night on the richest ore the mine has ever produced. Preparations are being made to erect three other mills. The Queen City lode is opening richly. This district has been thoroughly prospected the past winter, and a number of rich lodes developed.

UNIONVILLE.—None of the companies have stopped work. A sufficient force will be employed to take out quartz to keep the mills running.

NEW DIGGINGS.—A party prospecting in a side gulch four miles beyond Georgetown, on Thursday, sluiced out $19 in a three hours' run with one box, after reaching bed-rock. A dozen friends were quietly informed, organized a district, staked off the gulch, and prepared to commence work. Bed-rock is from 6 to 10 feet, and there is about 25 inches of water in the gulch. It has been named "Specimen Gulch."

VIRGINIA CITY.—A new lode has been struck in Silver Belt District, the crevice of which averages from twelve to fourteen feet, and increases as they go down. It is said to be very rich.

DEER LODGE ITEMS—FRENCH GULCH.—The hydraulic claim on the bar is being put up in shape. There are about seventy-five men employed in this gulch, and at least three hundred men can find work during the summer. There is plenty of water anticipated. In Bear Gulch every claim is being worked, miners are washing up their dump piles, money is plenty and the prospects flattering. A new ditch has been completed to supply Antelope Gulch. The mines are said to be rich. A very rich body of quartz has been struck in the Caleh lead, which will keep the mill busy when it once starts.

MEXICO.

Papers per steamer *Montana*, bring the following news:—The Tajo mine in Rosario was siezed by bandits, and a *prestimo* of $3,000 demanded. Mr. Bradbury and his men were entrenched in their own house. Subsequently assistance arrived from Mazatlan, and the robbers fled. The troops mistook Bradbury's party for robbers, and they were fired upon, killing Julius Overkott, the mining manager.

NEVADA.

HUMBOLDT.

BATTLE MOUNTAIN.—*Register*, April 21st: Brown & Cain are pushing ahead with their contract on the St. Helena. The ledge is four feet wide, all solid ore in the shaft, which is 50 feet deep. Work is also prosecuted steadily on the Montrose, and the shaft is now 50 feet deep, in which is a vein of ore five feet wide, that will mill from $75 to $100 per ton. The Little Giant mill is running on ore that yields from $250 to $300 per ton. A San Francisco company will commence work immediately. The Alaska is a large, well-defined lode.

ECHO DISTRICT.—Developments on the Alpha mine are of the most favorable character. Carmony & Smith are vigorously prosecuting work on the mine.

The drift on the lower level, 160 feet from the surface, discloses the largest well-defined vein yet developed in Humboldt County, it being at that depth 20 feet wide. The ore is principally of the black sulphuret variety, and a few tons of it recently worked in San Francisco yielded $575 per ton. A lot of 140 tons is now being shipped to the English mill, on the Truckee, for reduction. Dorman & Co., owners of the north extension, are sinking a shaft, and at a depth of 30 feet have a vein five feet wide. Sanches & Kaughman are at work on the south extension, and have ore in paying quantities. The district is being thoroughly prospected.

PLACER MINING.—Dick Nash and J. Miller, of Star, have struck surface diggings a short distance above the Sheba mill, on Star Creek. Prospects averaging five cents to the pan have been obtained. Several claims have been located on the creek, and sluice boxes are in demand in that vicinity.

Joseph Organ has put the Sheba mine in working order, and will commence taking out ore in a few days. Six men have been at work on the mine for the last four weeks, cleaning out old shafts and drifts, and setting things generally to rights.

BULLION Silver Mining Co. shipped this week 2,987 ounces of bullion....Fall & Co., 3,987 ounces....G. Negus, shipped April 22d, 137 pounds of bullion from Golconda.

THE AUBURN MILL ON THE TRUCKEE.—Reno *Crescent*, May 1st: This property, adjoining Reno, is owned by an English Co., known as the Nevada Land and Mining Co., limited. The mill, which is of 20 stamps, with a complement of pans and settlers, was completed in 1856, the calculation then being to work ores from mines in the neighborhood until the completion of the railroad to Humboldt, where the company own some extensive mines, containing valuable ore. On making a trial it was found the ores here would not pay and the mill shut down. Last September Mr. J. J. Dunne arrived here from London, and at once commenced putting the works in order. Very extensive repairs have been made, including the cleaning of the ditch from end to end, and the digging of a new tail-race seven miles in length. The mill power is one of the very best on the coast. The mill started up on Tuesday on ore from the Alpha mine. Mr. Dunne contemplates the erection of roasting furnaces to work the richer grades of Humboldt ore, which are now being shipped to Swansea.

This company own an extensive body of land surrounding the mill, 800 acres of which is under fence. This enterprise was started in 1863, and upwards of $600,000 has been expended.

REESE RIVER.

SILVER BEND.—Austin *Reveille*, April 27th: We learn to-day that W. F. Leon, of the El Dorado South mine, was appointed agent of the Belmont Co. in that district by Col. Buel before his departure to Europe. Mr. Leon has already resumed work in the Transylvania mine of the Co., and is repairing the mill for immediate work. There is a large amount of good ore at the surface of the Transylvania mine ready for the mill; and upon the grounds of the latter there are 150 tons of concentrated tailings which will yield, as shown by repeated assays, upwards of $150 per ton. As soon as the requisite hands can be obtained from White Pine, it is Mr. Leon's intention to work the El Dorado North.

BULLION.—Mr. Curtis, Supt. of the Manhattan Co. to-day completed his shipment for the steamer of the 30th, amounting to 47 bars, weighing 4,033 pounds, and valued $60,125 42. This is the second shipment by that Co. this month.

AMERICAN.—Same of 28th: It was reported to-day that this Co., which has sunk a shaft on the claim known as the Yankee Blade, in the cañon of that name, had cut the vein in the shaft. Workings of this mine developed large bodies of valuable ore, and the report is likely to be true. If it is, the Yankee Blade will soon largely increase the product of the district.

LANDER HILL ORE.—The Harding and Dickman mine, which has been unworked for years, until recently, has been celebrated for yielding rich ore. We learned to-day that some 16 tons were reduced at the Manhattan mill, the assay of which exceeded $800 per ton. Several other mines in the hill are also producing ore of a high grade.

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

SIERRA NEVADA.—*Enterprise*, April 27th: The body of paying ore in this mine appears to be absolutely unlimited. How Mr. Williams, Bob Apple and other superintendents, who have had charge of the mine, came to overlook this immense body of ore on the very surface passes our understanding.

OCCIDENTAL.—Same of 28th: This mine never looked better. Good ore abounds in every part. On the lower level sulphuret ore, similar to that of the Comstock, has been found. Its extent is not known as no cross-drifts have yet been made on it.

GOULD & CURRY.—Work in the bottom of this shaft, with a view to the opening of a new level, will be resumed within a day or two.

ENCOURAGING.—29th: The mines along the whole Comstock ledge are looking well, and our prospects for a prosperous season are most encouraging. Some mills are still idle on account of the stoppage of the mines at the Hill, but we hope soon to see them all going as usual.

OVERMAN.—May 1st: The Co. are retimbering their main shaft. They timber one compartment at a time, so that the hoisting of ore proceeds as usual. The works are in excellent order, and everything looks favorable. The ore taken out is not of a high grade, yet pays well for milling. Most of the ore is being taken out through the Uncle Sam shaft.

BULLION SHIPMENT.—During the past week 7,058 pounds of silver bars, worth $185,563 47, was shipped from this city.

OPHIR.—The drift west is now in 238 feet. Some seams of clay have been cut, and some small pockets of water tapped, but the water has in every instance drained off in a few hours. It is supposed that the drift is still a considerable distance from the front lead.

AMERICAN.—May 3d: Operations are being resumed on mines that a year or two since were in a manner abandoned. Then it cost $30 per ton for reduction; now $8 to $10. In the above named mine,—the old North American,—they are now working through a tunnel 350 feet in length, which cuts the vein at about 100 feet below the surface. Here the lead is 50 feet in width, and an opening north and south has been made on it for a distance of 120 feet. There is but little waste in this whole body of quartz, and as taken out, it averages $16 per ton when milled. The mine is immediately south of the Overman, and the underground works of the two are connected. Four mills crush the following number of tons, each, per day: Devil's Gate mill, 85; Atlanta, 15; Ramsdell and Smith mills, 12. The mine is now so well opened that 200 tons per day might easily be taken out. A new boiler is being put in at the hoisting works, and operations will shortly be resumed in the old shaft.

ADRIATIC.—This Co. is taking out a large amount of good ore. Crushing will commence next Monday at the old DeLand mill. The breast of ore in the mine is 10 feet in width. The ore shows much free gold.

HALE & NORCROSS.—Large quantities of high grade ore are at present taken from the lowest level of this mine, some of it averaging $125 per ton. The whole mine yields at the rate of over 1,100 tons of ore per week, averaging $60 per ton.

THE DAMAGED MINES.—Gold Hill *News*, April 30th: The air in the Crown Point is only bad in the upper levels. The water is now reduced by the pump to less than 70 feet. They are to-day clearing up and hoisting out caved waste. Some ore is being hoisted from the 800-foot level of the Yellow Jacket, and the Kentuck continues yielding ore from its upper levels.

Same of May 1st:—The Yellow Jacket and Kentuck are sending out ore at a lively rate. Ore could have been sent out from below the 700-foot level of the Crown Point to-day but for repairs found necessary to the machinery. They are retimbering the 700-feet station which was burnt out and caved. The fire in the mine is thought to be extinguished.

Same of the 3d:—Yesterday 20 or 30 car loads of ore were hoisted from the 800 and 900-foot levels of the Crown Point, and the prospect was that full operations would be proceeded with, but an increase of smoke was noticeable towards dark, and by 10 o'clock in the evening it had become so bad in the upper levels that all hands were taken out of both the Crown Point and Kentuck mines. The smoke and gas increasing about 11 A. M. to-day, both the Crown Point and Kentuck shafts were closed, and steam will probably be sent down to extinguish the fire if possible. It is burning between the 700 and 600-foot levels. Only a few men are working in the Yellow Jacket to-day.

WHITE PINE.

[The latest items of news and information from this district will be found on another page.]

OREGON.

MINING ENTERPRISE.—Portland *Oregonian*, April 24th: Mr. Henry Nevison will leave next Friday for Sutherland Bar, on the Upper Columbia, near Fort Okanagan, with a number of Chinese for Tong Duck Chung, who, if prospects prove favorable, will buy out all the white owners, and employ a large force of Chinamen to work the mines.

Sentinel, 24th:—Mr. Neuber has two bars of gold weighing 18½ ounces, which he melted out of 58 pounds of rock from the shaft of Dillon & Bowden. This was from selected rock, taken out at the depth of fifty feet.

SEVEN hundred millions of dollars have so far been lost in British railways by mismanagement.

Resources and Developments.

GRAIN ELEVATORS.—The importance of the introduction of grain elevators, into this State, can scarcely be over estimated. Our wheat is now handled in a manner most slow and costly. How much can be saved by the proposed improvement, it is impossible to say; but the aggregate must be very large on the entire crop of wheat and barley—not less than half a million of dollars, annually. This is for *handling*, alone; but the use of elevators would also do away with the use of sacks, which are now a farther tax of at least two millions more. Of course, *handling* in bulk would also imply *shipping* in bulk, which several careful grain shippers have pronounced perfectly feasible, for even a Cape Horn voyage. Should such a system be adopted, adopted, the two elevators now projected here and the one nearly ready for operation at Vallejo could handle but a small portion of the California grain crop. In Chicago, eighteen elevators are employed to handle only 10,000,000 bushels—less than one third of our present crop. The use of elevators and shipping in bulk will save the grower from eight to ten per cent. in the cost of getting his wheat to an Eastern market—a very handsome profit of itself, on a large farm.

FARMING LANDS.—One of the most important items in the progress of the material development of the State, at the present time, is the determination manifested in the agricultural counties, to tax the land on mammoth ranches at something like its market value; thus rendering it to the interest of the holders of such lands to transfer them to those who, by putting them to immediate use, can afford to pay the taxes. There is moreover a very active movement in Government lands, over 240,000 acres of which were sold at the land office in Visalia, alone, during the month of March. An Association, known as the Celtic Farm Association, has also recently been organized in this city for purchasing large tracts of government or private land, to be divided up into farms, each alternate subdivision of which is to be sold at a low rate, but only to persons who will occupy the same and engage personally in agricultural pursuits. We presume that one of the objects of this association is to save to purchasers of homesteads the enormous profits which middle men and speculators are making out of these homestead operations, and thereby divide all the advantages among themselves. The homestead device, in the hands of avaricious men, is fast becoming a delusion and a snare. Such associations as the one here indicated may serve a good end in preventing such a result.

FISHERIES.—There are but few persons who are aware of the large proportions which the fisheries are assuming on this coast. The gross receipts for the present year, of the three principal firms on the Columbia river who are engaged in canning salmon, will reach, if not exceed, $300,000. In addition to the canning business, there are also numerous parties who are pickling and packing in wooden packages. Extensive fisheries of various kinds are also established and being established on Puget Sound and its tributaries, where almost every variety of fish is found that swims in either fresh or salt water.

The cod fishery of the northern coast has already become a large and lucrative business. The advantages of this coast for this important industry are nowhere excelled. The fish are very plenty, and of a superior quality, while the fishing grounds are almost unlimited in extent, and the water not more than half the depth of that on the New Foundland banks—an advantage which any fisherman well knows how to appreciate. Fishing is a peculiar and distinct branch of commerce, which requires, in order to ensure success, men of experience and means, and a fine opportunity is here presented for such men to embark in the business.

TRADE WITH ALASKA.—Within the past year our coast traffic has taken a huge stride to the northward, compassing at a single bound, the whole northwest coast of America. Trade with the various ports and islands of Alaska is being steadily developed. Since the first of January over thirty vessels, with an aggregate of about 7,000 tons, have been fitted out from this port, for our new possessions. Eight of these vessels were dispatched during the month of March, all carrying cargoes of assorted merchandize.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Mr. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1868.

San Francisco:
Saturday Morning, May 8, 1869.

Notices to Correspondents.

COLUMBIA, Tuolumne County.—The best Parian marble is white, very slightly inclined to yellow, with a waxy lustre. It is fine and granular, and if well polished, presents a subdued varnished appearance. It is particularly celebrated for withstanding the decomposing effects arising from atmospheric influences. The name is derived from the isle of Paros, where it is obtained. Parian marble was highly prized by the first Grecian sculptors on account of its adaptability of accurately receiving the finest designs and most delicate touches of the chisel, and retaining for ages the rich mild lustre of the original polish. The finest specimens of Greek sculpture remaining to the present time consist of Parian marble, for example, Venus di Medicis, the Diana Venatrix, the collosal Minerva (called *Pallas of Velletri)*, Ariadne (called *Cleopatra)*, and Juno (called *Capitolana)*.

PAINTER, CALAVERAS CO.—The great bulk of natural mineral paints consists of oxides of iron mixed with various proportions of alumina and silica; by far the greater part consisting of what are usually known under the name of ochre. These are usually of a dull yellow color, which, when heated, changes to red, or as it is sometimes called, "colcothar" color. Spanish Brown and Venetian reds are the commonest varieties of torrified ochres.

NUMISMATIST.—If the metallic circulating medium of Great Britain is the one to which you allude, we believe that it amounts to about $670,000,000, of which $400,000,000 is in gold coin. With what is called the copper coinage—pence, halfpence and farthing—the sum is about $5,000,000. Although called copper money, the last named is really formed of bronze, *i. e.*, tin and copper alloyed, forming the most durable small currency to be found in the world.

STRATAGRAPHIST, Knight's Ferry.—The description of rocks of varied classes can easily be exhibited by employing dots and lines in varied angles and arrangements,—as well as by coloring, though this method is not so pleasing to the eye.

THE CHIEF CLERK.—We learn by telegram that Mr. James Grinnell will be retained in his present situation as Chief Clerk of the Patent Office. From our acquaintance with Mr. G. and his antecedents, we are confident this is a wise confirmation by the new Commissioner. Mr. Grinnell is a native of Hampshire county, Mass., and hails from the mountains contiguous to the poetic-famed Berkshire Hills—where they raise men of robust mein and vigorous mind.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

Permanent Interests in Mining Sections.

A mining correspondent has furnished, in another column, some excellent hints, looking to a more permanent development of the various mining sections of the State—particularly those in and just above the foot-hills. The future of our mining towns is a problem which has elicited much serious thought on the part, not only of the citizens of those towns themselves, but of all who have the general welfare and prosperity of the State at heart. To those who have properly considered the question, no sufficient reason can be seen why indications of decay should be so often witnessed there; for the experience of the past few years has fully proved that the spurs and intermediate depressions of the Sierra Nevada, possess other resources than their placers of gold. Our mountain soil, even in the absence of irrigation, has been found prolific beyond expectation, in the growth of fruit, vegetables and cereals.

Go where we may, into any of the markets of the State, where the vegetables and fruits of the mountains are exposed for sale side by side with similar productions of the river bottoms, and everywhere it will be observed that the former commands the readiest sale and the largest price. The meat or pulp of the mountain fruit or vegetable is the firmer, more palatable and less liable to decay of the two. All the small grains are also produced abundantly, and of the very best quality in the red soil of the hills—especially is this true of wheat, as the products of the numerous flouring mills in the mountains abundantly prove. The vine, as every one knows, has its peculiar and most appropriate home on the hill-sides. California presents no exception to the general rule. We make no mention of the superior inducements which many of our mountain valleys present for the dairy business or for sheep-raising.

Valleys of greater or less extent are scattered all through the mines, as well as greatly-sloping hill-sides, as fertile as the banks of the Sacramento or the San Joaquin; and men who have become tired of mining, and of the roaming to and fro consequent upon that pursuit, are anxious to settle down upon these desirable localities, and make for themselves and their families a permanent home. But there is a serious draw-back to any such attempt, which is alluded to by the correspondent aforesaid, and of which all dwellers in the mountains are well aware. This difficulty grows out of the unnatural hostility which exists between the mining and farming interests, and we know of no better plan for removing it than a sale of the lands by the government—all the lands, both mineral and agricultural, so that the farmer can make his own chosen use of them, without disturbance from any quarter. Such a policy would in nowise interfere with legitimate prospecting, as any land holder would cheerfully grant permits for prospecting which would lead to the development of his property, and on terms which would be mutually advantageous.

We are pleased to note the fact, in this connection, that such opinions are now very generally prevalent among miners in all sections of this and adjoining States, and it is only by carrying out this policy that we can have any reasonable hope for the permanency of our mining towns. The advantage of a mixed system of mining and agriculture in reducing the cost of living and all its attendant benefits, is too apparent to need any argument. With a sale of the mineral lands in small parcels, as suggested in our issue of the 10th ult., our mountain population will become more thrifty and permanent in character, and will greatly improve in its moral element from the more general introduction of families. We may safely assert that nothing can contribute so much towards socializing and permanently improving the pecuniary and industrial condition of the mines as a large introduction of the farming interest. Who does not rejoice to meet, when traveling in the mountains, with one of those cosy little spots, nicely enclosed, planted with vines, trees and vegetables, beautified with flowers, and made alive with rosy, rollicking children. Such people, as a class, do not rapidly grow rich; neither are they particularly anxious for riches. They are content with humble independence and form the genuine substratum upon which the most permanent and most prospersous communities are built. Our mountain valleys should be full of such nurserics of industry and population.

There is no mountain territory on the globe more admirably fitted, by nature, for the fixed abode of humanity, than are the mineral regions of California. If the Swiss peasants can live and thrive and make their lands worth a thousand dollars an acre and more, on the wintery slope of the Alps, so steep that many of the hill sides have to be terraced for cultivation, why cannot the Anglo Saxon do as much or more in the equally beautiful and milder valleys of the Sierra Nevada, where nearly the entire season of winter can be devoted with more or less profit to prospecting and mining? With the growing knowledge of the worth of our hill-sides and mountain valleys for horticultural, pomological, cereal and grazing purposes, and with an adequate protection to that class of industry, we have faith to believe that a new era is dawning upon our mining towns; and we grow hopeful and confident that the mineral regions of this State in particular, will ultimately be as equally blest and flourishing as any portion of our territory east or west.

THE CHEMISTRY OF IRON PAN AMALGAMATION is receiving so much attention from the more intelligent of our millmen that the mystery thereof is no longer in character with the times. Drug-store processes are not all extinct, but the matter is pretty well understood that if any chemical, that may be added possesses virtues in amalgamation, it is because there is a good and simple reason for the same. Experiment suggested by the analogical faculty, and accident, develop new processes; science follows, seeks out and discovers the reason why, and thereby generalizes and facilitates its proper and economical application. While such differences of opinion still exist in regard to the actual chemistry of the patio process, the part played and actual successive charges undergone by that which we put in as sulphate of copper in the iron pan amalgamation; while we rest uncertain whether much or little is really due to friction electricity, in the grinding-amalgamating pans, it must be conceded that we have yet some steps to make towards clearness, and certainty at least, in our understanding of the principles we are employing with such marked success in given cases, and such signal failure in others.

TREATISE ON EARTHQUAKES.—On Monday next will be published at this office, a work by Prof. T. Rowlandson, under the title of "Earthquake Dynamics and Palliatives." The work in question will contain, not only much matter that is not generally known, but views that will be novel even to those who have paid some attention to this branch of physics. We may mention that the novel theories broached have been derived, in part, from a study of the phenomena associated with metallic veins. The work will be noticed in our ensuing number.

In order to accommodate those living at a distance from bookstores, copies will be transmited by mail, free of postage, to any address on the receipt of 50 cents, by Dewey & Co.

ANOTHER Lower California exploring and speculating expedition this week in the schooner Mary Harrison.

The Railroad Jubilee.

The last rail that is to connect the Atlantic with the Pacific will most probably be laid this (Saturday) morning. Our readers are already aware of the elegant and costly shape which has been given to the last tie—a magnificent piece of polished laurel; while the last spike which will be employed has been made of pure California gold, to be driven down by a 4-pound sledge of Washoe Silver. When that sledge descends to made its last stroke, telegraphic wires will be so arranged that the blow will send a spark East and West, wherever the wires may reach. It has been arranged that this spark shall fire signal guns in this city, Sacramento, Stockton, Chicago and other eastern cities, at the same instant. The gun, in this city, will be fired at Fort Point, and will be the signal for national salutes from Forts Alcatraz, Black Point, Fort Point, and Clay street Hill. At the same instant a band of 200 pieces will strike up "Hail Columbia," and with a universal display of flags, all the steam whistles in the city will pour forth a screaching chorus to the national anthem. Other cities throughout the State, and no doubt throughout the Atlantic States, will make similar arrangements to herald the finishing stroke of this, the grandest work which the world has ever witnessed.

Extensive arrangements have been made in this city and Sacramento for the celebration of the day in a manner commensurate with the importance of the occasion. Business will be suspended and our citizens and civic bodies, the military and firemen, will turn out in a procession which, it is confidently expected, will be the largest and most imposing ever wituessed on the Pacific Coast. After countor-marching through the principal streets the procession will move to the Mechanics' Pavilion, where an address and poem will be delivered, to be followed, perhaps, by other exercises of a literary character. A general illumination will take place in the evening, and bonfires will blaze from all the prominent hill tops in the vicinity of San Francisco.

The day will be a happy and a glorious one for California, and one, in the rejoicings of which, the whole civilized world will heartily unite. It will be, too, a proud day for the bold pioneers, who dared, in earnest, to undertake a work, over which all others had been talking for more than a decade. These men had faith in the work and faith in themselves that they could accomplish the work, and upon that faith the road has been built. When men of scientific professions and those that were possessed of wealth laughed at them, they pushed forward with all the more energy and zeal. They have conquered; and now comes the day of their rejoicing. We fully agree with our Sacramento cotemporary—"Let an iron monument be raised to their memory; let the names of those noble, indefatigable men of Sacramento, who carried the work to a successful termination, be inscribed thereon in letters of iron; let us have something to commemorate the event, which will endure until ourselves and our children shall be no more."

P. S.—Since writing the above, a telegram from the front states that it will be impossible to proceed with the ceremonies of laying the last rail to-day. The celebration, however, will be held in this city to-day.

THE "Last Spike" was manufactured at the metal-working establishment of W. T. Garratt, in this city, and consists of $360, U. S. coin, San Francisco Mint, melted together. The work was done by Joseph Garratt, father of W. T. Garratt, and the oldest metal worker, probably, on the coast, who very naturally took pride in doing the job. The finishing and engraving were by Shultz, Fisher & Mokling. A silver spike has also been forged in Virginia City, and sent forward to the front to precede the driving of the last and golden spike. While it was being forged over one hundred persons present, gave each a blow with the sledge.

Metallurgy.

ZINC AND ITS AFFINITIES.—We notice in an eastern exchange that Mr. d'Heureuse is perseveringly at work in New York in testing and perfecting his zinc extraction process,—with which our readers are familiar. The affinities of zinc for lead, quicksilver, and the precious metals, appear to be a popular study with inventors just at present; and for reasons not entirely ill-founded. Flack's modification of the Parks zinc-silver-lead extraction process, is pronounced a success at several establishments, viz., that of Dieffenbach, in Jersey City, and the Deutz Metallurgical Works, near Cologne, on the Rhine. The advantage is, that where lead is a drug, or transportation too high, a small percentage of zinc added will bring both zinc and silver to the surface in an alloy which can be skimmed off. Inquiries concerning the use of zinc in quicksilver, for sluice amalgamation, come to us from practical miners in the foot-hills, in pursuit of knowledge concerning the advantages of an old Mexican process of this character. Zinc-plated iron, for battery and sluice amalgamation, is the subject of a new patent.

There are several methods of separating silver and lead from the zinc. Mr. H. Roux, of Marseillos, has recently patented a liquation process, in which the argentiferous alloy of lead and zinc obtained in the Parks process is broken up, placed into a reverberatory furnace, covered with a small quantity of litharge, and heated to a dark red heat. Litharge is reduced by the zinc, the latter is oxidized; and the lead produced, absorbing all the silver, runs away through an outlet for cupellation. As soon as the running off of the lead ceases, the reaction is complete, and the aperture of the outlet passage is closed. The furnace is then well heated, so as to liquefy perfectly the litharge, as also the oxide of zinc and all foreign matters, such as the oxides of copper, iron, and antimony, which dissolve. The outlet passage is then again opened, and the remaining quantity of lead is run off, the arrival of the litharge in the passage indicating that all the lead has been eliminated. In cases where the argentiferous alloy contains very large proportions of zinc it is advisable to increase the dose of litharge, in order that the latter may be present in sufficient proportion to perfectly dissolve the oxide of zinc, and to form a sufficiently liquid compound to allow the globules of lead to traverse it readily. That portion of the lead remaining in the form of impure lithargo is run off separately. In this country it might be left to lie until reduced transportation would warrant its being made marketable.

AN ASTONISHINGLY "NEW AND CHEAP" PROCESS of extracting gold from quartz is given seriously in the London *Mining Journal* of September 13th—a development of the late Scottish gold discoveries proving the metal to be extensively disseminated in opaque quartzes in that country, especially in Hugh Millor's old quarrying grounds, on the Cromarty coast. "T.," a Newcastle man it appears, is helped to fame in a recommendation of the following:

"First, let the rock be roasted at a red-heat, as is practiced with regard to flints intended for pottery ware. This roasting renders it easy to break the rock afterwards by a hammer into pieces about the size of small apples. In this state the rock must be placed in a large earthenware tube previously fixed in a furnace. The heat in the interior of this tube must be what is called a bright cherry-red, or incipient white heat. If under these conditions we now pass through a current of chlorine gas, either pure or mixed with atmospheric air, as in the making of chloride of lime, the chlorine will combine with and volatilize the whole of the gold existing in the broken rock, and this gold will be carried no further out of the other or open end of the tube than to the part which is at a dull red heat. At this point the whole of the gold will be deposited, for it is a singular fact that although at a white heat, chlorine gas combines with gold and renders it volatile, yet by cooling to a dull red heat the two substances separate and the gold is deposited."

The writer is correct in stating that chloride of gold decomposes at a temperature so high, or low either, as a red heat. As to the affinities for each other of chlorine and gold being restored on attaining a light cherry-red or white heat, (which is improbable)—the resulting chloride of gold being then entirely volatile, we will admit that the latter "fact," especially, and the process, looked at from a practical point of view, have to us the merit of novelty. It seems that the subtle Newcastle chlorine has no difficulty in permeating quartz fragments of apple size. The increased affinity for gold in this new and cheap process is many fold, and wonderful indeed.

Mineralogical and Geological Notices.

FORMATION OF YOSEMITE VALLEY.—Professors Blake and Whitney take opposite views on this subject, the former representing glacial erosion as the cause, and the latter plutonic agencies—a great transverse fracture at the time of the elevation of the Sierra Nevada range, or the "bottom's dropping out," as the phenomenon is popularly accounted for. The points, which may enable tourists to decide the question for themselves, are these: In favor of the glacial origin, the fact that similar valleys, of less depth and rarely such perpendicular walls, are known to have been caused by glaciers in part still existing, aided by subsequent erosion, in the fiords of Alaska and Norway, the Alps and the Himalaya; that the upper end of Yosemite Valley divides into several branches, as a glacier might do; that its bottom is hard granite; that the domes and other summits are distinctly marked with glacial scratches in the general direction of the valley, rounded down by glacial action, and frequently so polished as to gleam like mirrors in the sun. It may be remarked that the ice rivers called glaciers are universally conceded by geologists to have covered immense areas in elevated parts, even down to the tropics, during the "cold snap" which, as we know by these marks and hillocks of debris, happened in the beginning of the post-tertiary age. Ambitious tourists will scale the peaks above the Yosemite, to study the operating causes intelligently by their results. On the Mono Lake trail, at 8,000 feet elevation, scratches are evident from the base to the summits of mountains 2,000 above the valley. We recommend those in search of novelty and the picturesque to go on still further, for on the eastern slope of the Sierra, in this vicinity, are to be seen, not far from Castle Peak, (the sawmills, twenty-five miles N.W. of Mono Lake,) some of the most characteristic work ever done by glaciers on a grand scale,—the results of the ice epoch combined with the picturesque and the sublime, in a succession of limpid, forest-lined trout lakes at the mouths of glacial cañons; and evidently caused by the great natural dams and hills seen stretching across, which are technically the terminal, and lateral moraines, of 100 feet in hight.

In any event, the glaciers of the Sierra Nevada were only local; the north and south scratches of the great northern Drift, over nearly level country, which seems much more difficult to account for than ordinary glaciers, never having been observed on the Pacific side of the Sierra Nevada, nor of the Rocky Mountains, so far as we are aware.

In favor of plutonic, or eruptive origin, it is argued that the walls are too steep to admit of glacial causes; that their sides have inadmissibly peculiar angular forms, the mass of El Capitan, for instance, having two perpendicular surfaces of smooth granite meeting at right angles, and each over 3,000 feet high; that the Domes having been formed by upheaval, no reason can be assigned why a fissure should not have been left at the same time into which the last half of the Half Dome tumbled in "the wreck of matter and the crush of worlds."

DR. HERMAN CREDNER, who has labored very meritoriously, and for years, in the field of American geology, has been appointed—says the New York *Journal of Mining*—as professor at Leipzic University. In his thesis on "the Subdivision of the Eozoic (pre-Silurian) Group of Geological Formations in North America," he defines the lower limit of the Silurian system, describes the Laurentian group of Canada, etc., and the Huronian system, including a northern zone in Canada and Michigan, and finally concludes with an interesting comparison with European formations, and a tabular resumé of the membership and equivalence of the strata. He held in his public disputation "against all comers"—customary on such occasions—that, 1, The granites are sometimes of sedimentary, sometimes of igneous, origin. 2. For many stratified crystalline rocks an original crystalline formation is to be accepted. 3. The theory of the hydro-chemical metamorphosis of extensive rock-formations contradicts natural phenomena, etc. The auriferous slates of the Southern States, designated as "Taconic," are claimed by him to belong to the Huronian series, beneath the lower Silurian. The auriferous slate formation of Central Mexico, of Australia, and the Ural, it will be remembered, are also Silurian.

SINGULAR FACT (?)—The ordinary time of the bearing of the orange, from the buddings, is three years. It is stated as a remarkable fact, that a tree belonging to Mr. G. W. Atwood, near St. Augustine, Florida, recently produced an orange in one year from the bud. This circumstance is thought to be owing to the fact that a fruit instead of a leaf bud was used. If this was the case, it certainly demands the attention of orange growers, and perhaps the growers of other fruit as well.

THE FIRST EMIGRANT TRAIN, from the Missouri River for California, arrived at Grouse Creek, just within the eastern line of the State of Nevada, on the 17th of April. The progress of an emigrant train thus far, so early in the season, betokens an early opening of spring on the plains.

RETURNED.—Dr. J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

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United States Branch Mint, San Francisco, Cal., March 12, 1869—Messrs A. S. Hallidie & Co., Agents Morgan Crucible:—I have carefully tested the Morgan Patent Plumbago Crucibles purchased from you for the U. S. B. Mint, and cheerfully certify to their superiority and economy over all other Crucibles used by and under me. They are fully what you represent them, and I shall continue to use them in preference to any other. J. M. EICKFELDT,
Melter and Refiner, U. S. B. Mint.
Eagle Brass Foundry, 206 Fremont street, San Francisco 12th March, 1869—Messrs. A. S. Hallidie & Co., 519 Front street—Gentlemen:—We have used and tested the Morgan Patent Plumbago Crucible, for which you are agents, and pronounce them superior to and cheaper than any Crucible used by us heretofore. GREENBERG & MOORE.
Messrs. A. S. Hallidie & Co:—We have thoroughly and severely tested in every way the Morgan Patent Plumbago Crucible obtained by us from you, and find them superior to any we have yet tried, although we have used every pot obtainable in this market. We have none equal to the above, and concede your claims for them. We think they will average 45 pourings of brass.
GALLAGHER, WEEO & CO.,
California Brass Works, 125 Front street, San Francisco.
Assay Office of H. Harris, Silver City, Nevada, April 24, 1869—Messrs A. S Hallidie & Co.—Gents:—I received from you three Crucibles of the Morgan make, which I have used since their arrival, and tested by constant use. Since 1847, when in the New Orleans Mint, I have always preferred the Crucible of Dixon's make over Adlis, Gautier, and Taunton, Mass. Yours I find to be not alone of more finished make, but to stand double or treble the work of Dixon's Crucibles. The No. 12—the smallest sent—has stood so far 32 meltings, and is as good and sound as when received. Your Crucibles do not scale off like others; and as they are forty per cent. cheaper, I do not see why they should not be preferred by all assayers on account of durability and cheapness. Yours respectfully, H. HARRIS.
On hand and for sale by the Agents,
A. S. HALLIDIE & CO.,
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PACIFIC
Rolling Mill Company,
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Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.
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The highest price paid for Scrap Iron 9v143m9p

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MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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NEW GRINDER AND AMALGAMATOR

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AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

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Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

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BENJAMIN ELLIOT,

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Manufactures Foundry Facings constantly, from choice coals. Bituminous, packed in tight sacks. Anthracite and Charcoal ground together or separate, packed in whole or half barrels. Black Lead, Coke and Soapstone ground to order. Foundrymen located far from choice material, can rely on having superior Facings forwarded to order.
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Steam Engines of all Kinds.
Amalgamators of all Kinds.

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Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

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McAFEE, SPIERS & CO.,
BOILER MAKERS
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Flue or Tubular **Boilers**, with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

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To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas, but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

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And all kinds of Mining Machinery.

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New and Improved
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The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

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Particular attention paid to Repairing.

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Incorporated, April 30, 1868. Capital, $1,000,000.
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Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.
Steam Engine Builders, Boiler Makers,
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All work in their line attended to with promptness and dispatch.

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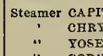
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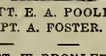

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Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville Colusa, Chico, and Red Bluff.

Office of the Company, northeast corner of Front and Jackson streets.

13v12 **R. M. HARTSHORNE,**
President.

A New Mode of Heating Dwellings.

When we take into account the quantity of heat that is due to the proper combustion of fuel, the amount of labor or its equivalent in moneyed value, which is required by the world to keep itself warm, is enormous. In whatever light we view the great waste of heat, considering its high cost, the loss attending its production is one of the most inexplicable wonders of this age of scientific progress. The disproportion of money and labor to the quantity of heat produced by any device which has heretofore been presented to the world, exhibits a greater lack of economy than does the use of any other natural agent made available by the toil or ingenuity of man.

It is estimated that only about ten per cent of the heat due to any given combustion, has ever been economized; yet volumes have been written upon the subject, and the principal scientific men of the age have given it their most serious attention. Within a few years past coal burning stoves have come into almost universal use for the warming of dwellings, with a manifest degree of economy in cost and care; but with have come poisonous gases, "burnt air," and all the train of evils consequent upon living in dwellings where the pure air of heaven is loaded with the seeds of disease and death. Science has in the meantime been invoked to devise some means by which we might retain our economical gain without submitting to the accompanying sacrifice of health and comfort. To this end, furnaces, radiators, steam-pipes, etc., have been introduced; but all these improvements, while they afford, many of them at least, the desideratum of salubrious atmospheres, have so increased the cost of heating, that but little has been gained over the primitive fire place for wood, or its subsequent modification in the form of the wasteful coal grate. The poor have seemed inevitably doomed to the malarious atmosphere engendered by the demon of "the dark and dirty mine," and the masses have settled down into apathy with a fixed resolution to submit to what could not be helped.

But to the inventor oft-repeated failure is seldom any reason for discouragement—ultimate success is sure to crown well-directed efforts, intelligently applied, and the desideratum which we have been considering, appears now to have been very closely approximated by a happy combination of principles which secures both economy and health. The world is indebted for this new invention to a Mr. Johnson, of Saco, Maine, who proposes to banish from our dwellings all the present heating arrangements, and enable the housewife to warm her apartments or prepare the fire for cooking her dinner in a few moments, by an arrangement which apparently combines the greatest degree of economy yet attained, with the most salubrious atmosphere which science enables us to obtain from a heated surface.

Mr. Johnson's heater consists of an air-tight sheet iron cylinder, with tubes passing through it from top to bottom, open at both ends. The bottom of this cylinder is cup-shaped so as to hold in its center a small quantity of water; while underneath the same is placed a gas jet. The water is put into the cup of the cylinder, which is then closed steam tight. The amount employed is just enough to fill the cylinder with steam, at fifteen pounds (atmospheric pressure). In a small cylinder this would not exceed one or two tablespoonsful. The water is put in when the cylinder is made, and is therefore constant; so that all that is required is to light the gas, when the cylinder is quickly filled with hot steam, which, as fast as condensed by radiation, is returned to the cup to be again converted into steam. By the application of the tubes, a large heating surface is obtained, and the whole arrangement is such as to economize the heat to the utmost extent. An ingenious contrivance self-regulates the admission and exit of air from the cylinder to alternately make room for the steam, and return the air when the condensation of the steam creates a vacuum which is required to be filled. The whole apparatus is as simple and safe as a teakettle. The kind of warmth generated is peculiarly

soft and healthful, while the cost is reduced to a minimum, especially where cheap gas can be obtained.

This invention has been thoroughly tested and fully exhibited in Boston and New York. It appears to have passed successfully through its probationary process, while its important advantages have become fully known to capitalists, who have already organized a company for its manufacture on a large scale, and its general introduction.

One of these useful contrivances has, been brought to this city by Mr. Thomas S. Day, at whose exhibition and sale-rooms, on Pine street, it may be seen and examined by those who desire to do so.

Apropos to the above, we perceive that a company has recently been organized in New York to supply that city with a cheap gas for *heating* as contradistinguished, from *illuminating*. We presume, although we do not know it as a fact, that this company has been organized with a view to more successfully introduce the above invention; as it is well known that such a gas can be manufactured at a cost not to exceed one-fourth that of the ordinary illuminating gas, and which may be distributed to consumers in the usual way.

It may be proper to mention, furthermore, that the new heater can be made in any desirable form, ornamented or otherwise; and that styles have been constructed and exhibited by which all the various processes of cooking can be readily performed. While the writer of this was in New York in January last, the exhibition room of this invention at 511 Broadway, was daily visited by scores and hundreds of persons—scientific men, inventors, hotel-keepers, etc.—who were almost or quite unanimous in the opinion that more has been accomplished by it than has otherwise been obtained in improvements for house warming, if not in cooking, for the last twenty-five years.

The possible development of the simple principle here exemplified is almost unlimited, and if the practical introduction of the invention meets with anything approaching to its promise of success, it must prove exactly what is needed in this city, to take off the edge from our cool evenings and mornings without overheating, and at a cost within the reach of every one. One of the most important considerations connected with its introduction here is the fact that no chimneys are required to carry off the gases produced; as, in ordinary use, they are too small in quantity and too little deleterious to interfere with health or comfort. Naphtha, burned as it is in the lamp manufactured by Mr. Hucks, of this city, or as it is used in any of the petroleum burning stoves, is equally as applicable to the invention as any kind of fixed gas.

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(Successor to O. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qr0pmr

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AND
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On all kinds of Ores, and particular attention
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ONE DOLLAR PER DOZEN,
And Photographs, Ambrotypes and Sun Pearls, by first class artists, at the lowest rates,
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Stores and Offices fitted up with neatness and dispatch.
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PURCHASER OF
COPPER ORES, BARS, MATT, Etc., Etc.,
505 Montgomery street, San Francisco.
The highest market price paid for ores assaying 10 per cent. and upwards. 23v17qr

W. C. CAMPBELL,
PATTERN AND MODEL MAKER,
No. 20 Fremont street, over Phœnix Iron Works, San Francisco.
Particular attention given to MODELS for the Patent Office Brands and Pattern Letters Cut. 4v18mtf

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C. H. WAKELEE & CO.,
601 California street, S. W. Corner Kearny street, buy and sell Farms and City Real Estate. Parties wishing to invest will find it to their interest to call on the . 13v18-3m

Pump Leather.
The attention of MINING COMPANIES, and others requiring a superior article for Hydraulic purposes, is invited to the heavy Oaked Tanned Pump Leather, manufactured and prepared expressly by the undersigned.

TRADE SANTA CRUZ TANNERY E. JONES & Co MARK.

Constantly on hand and for sale by
GRAY, JONES & CO.,
Depot of the Santa Cruz Tannery,
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A BIT PAPER.
The Largest Circulation in the County.
Advertisements in the Transcript will reach every part of Alameda County.
RATES FOR ADVERTISING
VERY LOW.

MECHANICAL AND ARCHITECTURAL
Drawing School
—FOR—
APPRENTICES.
MR. FREDERICK HELLERT,
An experienced Draughtsman and Teacher, has opened an Evening School at No. 414 CLAY STREET (same entrance as the Mining and Scientific Press Office), where he is giving thorough instructions in DRAWING to apprentices who are inclined to self-improvement. His terms are moderate and within reach of the humblest apprentice; and we are pleased to say that the enterprise is meeting with success.
1v18.tf

A GOOD INVESTMENT.
THE MOUNT MORIAH
Silver Mining Company,
OF ARGYLE MOUNTAIN,
White Pine District,
NEVADA.
Capital. - - - $300,000.
6,000 Shares, $50 Each.
FULL PAID AND NOT LIABLE TO ASSESSMENT.

President.....A. DE LAND
Secretary.....LOUIS COHN
Superintendent at Mines.....CHAS. E. HARRIS

TRUSTEES:
A DE LAND, THOMAS ANSBRO,
CARL PRECHT, LOUIS COHN,
W. S. TAYLOR.

This Company offer to the public One Thousand Shares of the Capital Stock for a Working Capital, at the subscription price of Five Dollars per share—FULL PAID, and NEVER liable to any assessment whatever. The mine is admirably located for working, being situate on Argyle Hill, opposite Treasure City. Shaft sunk 10 feet, showing a large body of chloride, which assays $700 per ton, and which will now mill $200. The capital raised to be used and expended on the mine. The standing and reputation of the Trustees is ample guaranty of responsibility, etc. Maps and samples of ore, and subscriptions at the office of the Company, Rooms No. 15 Stevenson House, corner California and Montgomery, and at 211 and 213 California street, near Battery street. 16v18tf

ILLINOIS
SILVER MINING COMPANY
White Pine District.
Trustees:
JAS. H. CUTTER, B. H. FREEMAN,
E. H. SHAW, JAS. R. OARNISS,
DAVID BUSH.

The Company's Mine adjoins the celebrated "Silver Glance," and is in close proximity to the "Argyle," and other prominent mines of the District.

From developments already made, the Trustees feel justified in saying to their friends that this is one of the best opportunities ever offered for investment in this State.

For the purpose of further developing the mine, the Company has set aside a limited amount of stock, to be sold as a working capital, of which they now offer 1000 shares, at the nominal price of $2 50 per share, unassessable—the entire proceeds of which will be devoted to developing the mine.

The books of the Company are now open for subscription at the office of the Company, No. 432 Montgomery street, Room No. 1, first floor. By order.
JAS. H. CUTTER, President.
O. W. STEWART, Secretary.
15v18-2m

The Perfection of Prepared Cocoa.
MARAVILLA COCOA.
Sole Proprietors—TAYLOR BROTHERS, London.

The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skillful application of their soluble principle and elaborate machinery, produced what is so undeniably the perfection of Prepared Cocoa, that it has not only secured the preference of homœopaths and cocoa-drinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.

"A SUCCESS UNPRECEDENTED."
[See following extract from the Globe of May 14, 1868.]
"Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adapting their perfect system of preparation to this finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.

Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.
6v18-1y

International Hotel,
JACKSON STREET
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.
THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.
Prices varying from $1 50 to $2 per day for Board and Room.
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.
☞Terms belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYOANT, Proprietor.

Professional Cards.

J. S. PHILLIPS, M. E.,
CONSULTING ENGINEER,
Examiner of Mines, etc.,
423 Washington street.....San Francisco.
(Having had 33 years' experience in Europe and America,) supplies drawings and designs for Pumping, Hoisting, Crushing Separating, Roasting, Chlorinizing, Milling, Dissolving, Precipitating, and Smelting Works. Minerals analyzed, and advice given for beneficial treatment. Lessons on the Discrimination and Assay of Minerals by Blowpipe, Chemicals, Scorifier and Crucible. 4v17tf

JOHN ROACH, Optician,
Has removed from 522 Montgomery street to
540 Washington street,
East of Montgomery.
Surveying Instruments made, repaired and adjusted
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JAMES M. TAYLOR,
Attorney and Counsellor at Law,
Court Block, 636 Clay Street
SAN FRANCISCO.
2v15-1qy

GILES H. GRAY. JAMES M. HAVEN.
GRAY & HAVEN,
ATTORNEYS AND COUNSELORS AT LAW,
In Building of Pacific Insurance Co., N. E. corner California and Leidesdorff streets,
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MEUSSDORFFER,
HAT MANUFACTURER
And dealer in
Hats and Caps
AT WHOLESALE AND RETAIL.
635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of D and Second streets.....Marysville.
72 Front street.....Portland, Oregon.
Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

THE GIANT
POWDER COMPANY
Is now prepared to fill all orders for
GIANT POWDER,
Put up in Boxes, either in Bulk or in Car tridges.
General Agents,
BANDMANN, NIELSEN & CO.,
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CARLOS O'DONNELL'S
California Cordial Tonic,
—OR—
Wild Cherry Bitters.
TRADE C. O. D. MARK.

This elegant preparation is acknowledged by all who have used it to be the most efficient remedy for every disease of the
STOMACH AND BOWELS,
Yet introduced to the notice of the public. Immediately on taking a dose of it, the patient will find a genial glow pervading his entire system, and its steady use for a short time will be followed by a healthy appetite and a good digestion, even in the case of the most confirmed dyspeptic,
To all who are suffering from
INDIGESTION,
DYSPEPSIA,
DYSENTERY,
DIARRHŒA,
NERVOUS AFFECTIONS,
Or any of the manifold troubles caused by a diseased action of the stomach, this remedy is confidently recommended as a safe and certain cure.
N. B. JACOBS & CO., Sole Agents,
15v18-3m **423 Front street, San Francisco.**

OCCIDENTAL
Insurance Company,
OF SAN FRANCISCO.
Cash Capital, - - - - - - $300,000
GOLD COIN.
Office S. W. corner of Montgomery and California streets.
Fire and Marine Insurance.
All Losses paid in U. S. Gold Coin.
CHR. CHRISTIANSEN, President
B ROTHSCHILD, Secretary 20v17-3m

Agricultural.

Cultivation of the Orange.

The cultivation of the orange is becoming quite an important and lucrative business in the southern part of California. In Los Angeles, especially, it has received great attention, and goodly crops of fruit are now being realized from trees which have been raised from seed recently planted in that locality. It has been noticed that the old trees, which are regardsd as partriarchs among those of recent growth, generally produce very sweet, but small oranges; while the newer tress, planted from ths seed of the older onss, yield fruit superior both in bulk and flavor. A very small, young tres produces from 100 oranges in number, upwards; while it is common for the older and thrifty trees to yield from thres to four, and often five thousand oranges, each. There are about 10,000 orange trees in Los Angeles County, which bear, on an average of from one to three thousand each.

The orange is a much more hardy tree than is generally imagined. It may be safely transplanted even at twelve or fifteen years of age. It may be raised from seeds or cuttings, and is well adapted to budding or grafting. The best mode is to graft the sweet, or any desirable variety, on the stock of bitter or indiffsrent fruit-bearing varieties, as the latter are much more hardy. The bitter orange trees flourish luxuriantly in northern Italy, where they are extensively cultivated, in the open air, for the beauty of their foliage and flowers; while the seedling sweet orange, in the same locality, has to be carefully protected by artificial coverings, generally of double glass, during the winter months. A suitable selection of stocks would no doubt render the cultivation of the orange practicable throughout the Sacramento Valley, and in the foot-hills adjoining, although no especial profit could be expected from it in those localities. There are quite a number of very fine, thrifty orange trees growing in a garden a short distance out from the village of Martinez, and a beautiful tree, eighteen feet high, as far up in the foot-hills as Bugbee's Vineyard, several miles above Folsom. Mr. J. R. Ketchum, at Bidwell's Bar, Butte County, has several trees in full bearing, and, if we are rightly informed, several hundred young trees (seedlings) well advanced. One of his trees, a Los Angeles seedling, had 464 oranges upon it during the month on which it reached twelve years of age. This tree has stood the frost, uninjured, down to 21° Fah., with eight inches of snow on the ground. We believe there are numerous other trees growing in various central portions of the State, sufficient to show that the cultivation of the tree, at least for ornament, if not for fruit, is perfectly practicable, as far north as Sacramento.

An orange tree will arrive at full bearing in eight to ten years. The ordinary time of bearing from the bud is three years. In cold climates the tree always has its marked seasons of flowering and fruiting; but in warm climates it is usual for the same tree to contain blossoms and fruit all the way from that just set to that which is ripe; although the fall is the time at which the chief part of the fruit is taken off. In this latitude the regular flowering time for the orange is March and April, and the season for general ripening, November and December.

There is a curious botanical fact connected with this tree, and no other, that ripe fruit can remain on it from one season to another. Such fruit, however, becomes dry and spongy the spring after it has ripened, but falls again with juice at the ripening season. The constant and great fruitage of this tree is very exhaustive to both the tree and the land upon which it grows; it should therefore be plantsd in good soil, and if properly cultivated and dressed will amply repay the outlay in both quality and quantity of its products.

This orange is properly a bush or shrub, and when grown for fruit, should never be trimmed into a tree. The branches should be suffered to spring from the crown of the roots, which is the natural form of growth for the plant. Such a mode of culture will prevent the bark from adhering to the tree, a trouble often met with, especially in dry climates, and one of serious import. A lack of attention in this respect threatens serious disaster to many orange groves in this State. At the present time there is much trouble anticipated from a black incrustation that covers the leaves, and which is thought to proceed from a small insect, which has greatly injured the tree in the Sandwich Islands, and in Florida, within the past few years. This substance is very similar, if not identical with that which is so frequently noticed upon the oleanders in this vicinity.

The botanical name of the common sweet orange is *citrius aurantium*. There are a great number of varieties belonging to the general order, chief among which are the common sweet orange; the blood orange, with reddish fruit, mottled with crimson; the mandarin orange, with a thin rind, which separates spontaneously from the pulp, and which, in China, where it originated, is held in high esteem; the pear-shaped orange; the fingered orange, so called from its frequent peculiarity of growth, wherein an occasional lobe or horn proceeds from an abnormal process of the carpels; the egg orange of Malta; the Seville or bitter orange, already alluded to, etc. The latter named is also subdivided into quite a number of varieties, chiefly cultivated for their flowers and fragrance; some of which are double-flowered. There is also a variety known as the bergamot orange, which has a pear-shaped fruit, and from the flowers and fruit of which the oil of bergamot is procured. The rind of this fruit retains its flavor for a long time, and is often pressed, when green, into the form of small fancy boxes to contain sweetmeats, lozenges, etc. Large numbers of oranges are raised in Florida, and others of the extreme Southern States; still the value of the importation of this fruit is large, exceeding one million of dollars per annum.

An excellent wine has been made from the fermented juice of the sour orange, combined with a large proportion of sugar and water. The pure juice from this fruit is extracted by Orange growers in Florida and sent to Cuba, where it is said to bring a good price. The oil from the peel, rising to the top, whenever the juice is exposed to the atmosphere, preserves the purity of the acid for a long time.

WHAT IS TO BE DONE WITH OUR WHEAT. We have still a large surplus of last year's crop on hand, with a greatly increased crop just coming in. What are we to do with this extraordinary supply? There is no sufficient market for it on this coast; it *must* go abroad—and mostly to either the Atlantic States or to Europe. At the current rats of freights, grain can be transported from this city to New York six cents a bushel cheaper thau it can be carried from Chicago to that city. With this fact in view, why may not a large portion over surplus be transfered to New York as rapidly as tonnage can be obtained for that purpose, and held there justsad of here for a market. Wheat will not advance here until an improvement is noted in New York. Cheaper freights than now obtained will not be found for many years to come, and if it is desirable to hold it, storage will be as cheap or cheaper in New York than here, while the product will, by the transfer, be just where the earliest advautage can be taken of either the American or European markets.

New Mining Advertisements.

Douglas Silver Mining Company.—White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth (6th) day of May, 1869, an assessment of twelve and one-half cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the eighth (8th) day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. my8

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth (5th) day of April, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
E C McComb	90	25	$25 00
E C McComb	91	563¼	56 25
Marila White	bal 5	150	150 00
Geo W Frasher	52	20	20 00
Geo W Frasher	53	20	20 00
Geo W Frasher	54	10	10 00
H W Hall	bal 45	25	25 00
John R Mead	49	50	50 00
A G Prince	58	10	10 00
R A Boyle	10	100	100 00

And in accordance with law, and an order of the Board of Trustees, made on the fifth (5th) day of April, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on Monday, the twenty-fourth day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. my8

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fifth day of March, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cozzens & Cleaveland	uniss. bal	10	$5 00
Gillig, John	unissued	440	220 00
Hearst, George	unissued	200	100 00
Martinez, Ladislao	unissued	80	40 00
McLaughlin, J W	unissued	1000	500 00
Paul, A B	4	20	10 00
Page, Nath'l, Trustee	2, 3	340	170 00
Wingard, A	unissued	964	480 00
Wade, W N	unissued	120	60 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Friday, the twenty-eighth day of May, 1869, at the hour of 11 o'clock, A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. my8

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-sixth day of March, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Blake, Wm	63, 64	45	$22 50
Bell, Rosann	6	30	15 00
Bidleman, E G	65, 89, 90, 91 92, 93, 94, 95, 96, 97, 98, 99, 100 101, 102, 103, 104, 105, 106, 107 108, 109, 111, 112, 113, 114, 115	1450	725 00
Bidleman, E G, Trustee	79	100	50 00
Carroll, John C	16, 17, 18	150	75 00
Comaford, P	31	15	7 50
Corbett, John	35	20	10 00
Downey, J P	53	5	2 50
Dillon, P W	32, 34	100	50 00
Farrell, Wm	unissued	30	15 00
Greene, Jessie E	1, 2	30	15 00
Herlehy, Michael	26	5	2 50
Hamill, John	66, 67, 106	45	22 50
Hastings, John	84	100	50 00
Kernan, Frank	60	30	15 00
Kennedy, James	unissued	15	7 50
Malony, Martin	10	1	50
McMahon, Miss Mary	29	15	7 50
Murphy, John	62, 121	180	90 00
Nenan, Andrew	12	1	50
Neagle, Wm	61, 81	398	199 00
Newcomb, Thos, Trustee	47	100	50 00
Ockel, Chas	11	5	2 50
O'Neil, Margaret	46	5	2 50
Paul, A B	125	55	27 50
Schoeneman, Henry	5	3	1 50
Sheil, Michael	unissued	10	5 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-sixth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, California, on the twenty-eighth day of May, 1869, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. may7

Mining Notices--Continued.

Bowden Silver Mining Company. Location of works: White Pine, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of April, 1869, an assessment of five cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, 419 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty ninth day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

M. S. MARTIN, Secretary.

Office, No. 11 Hayward's Building, 419 California street, San Francisco. ap24

MINING AND SCIENTIFIC PRESS.—This San Francisco journal is an able exponent of the mining interests of the country.—*Empire, White Pine.*

Cordillera Gold and Silver Mining Company.—Moreles District, Chihuahua, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixteenth day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
W R Cooper	50	52	$52 00
W H Bennett	48	13	13 00
D W Hildreth	123	33	33 00
P M Kelley	130	5	5 00
P M Kelley	220	2	2 10
Henry Blackman	252	21	21 00
Henry Blackman	254	26	26 00
Henry Blackman	278	24	24 00
Henry Blackman	283	40	40 00
A P Voohres	233	6	6 00

And in accordance with law, and an order of the Board of Trustees, made on the sixteenth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Monday, the seventeenth day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary.

Office, 321 Washington street, San Francisco. my1

Capital Silver Mining Company, White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of April, 1869, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the seventeenth (17th) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. ap24

Daniel Webster Mining Company.—Location of Works: White Pine County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of April, 1869, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the tenth day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of May, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

C. A. UHRIG, Secretary.

Office, No 418 California street, San Francisco.

Dios Padre Gold and Silver Mining Company, Alamos, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-ninth day of April, 1869, an assessment of three dollars ($3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. C. McComb, corner of Broadway and Battery streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. C. McCOMB, Secretary.

Office, cor Broadway and Battery streets. my1

North American Wood Preserving Company. Location of Works: San Francisco, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twelfth day of March, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. shares	Amount.
Geo W Dent		400	$400 00
Benj R Nickerson	29	20	20 00
Benj R Nickerson	30	20	20 00
Benj R Nickerson	31	5	5 00
Benj R Nickerson	32	5	5 00
John L Samuels	35	100	100 00
John L Samuels	36	50	50 00
John L Samuels	unissued	150	150 00
Henry S Dent	unissued	200	200 00

And in accordance with law, and an order of the Board of Trustees, made on the twelfth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on the first day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. B. LAKE, Secretary.

Office, 430 Montgomery street, San Francisco. ap17

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the eighth day of May, 1869, at the same hour hour and place. By order of the Board of Trustees.

my1 WM. B. LAKE, Secretary.

Siempre Viva Silver Mining Company, District of Zarigossa, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of April, 1869, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOUISE, Secretary.

Office, 318 California street, San Francisco. ap17

The Annual Meeting of Stockholders of the Daniel Webster Silver Mining Company, will be held on MONDAY EVENING, May 10th, at 7½ o'clock, at the office of the Company, No. 418 California street.

ap17-4w C. A. UHRIG, Secretary.

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books.—*Nevada Gazette.*

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office San Francisco.

Mining Notices.

Troy Ledge Mining Company, White Pine District, Lander County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixteenth day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
G W Hodge	45	120	$18 00
G W Hodge	46	60	9 00
G W Hodge	47	60	9 00
G W Hodge	48	60	9 00
G W Hodge	50	60	9 00
G W Hodge	51	120	18 00
J C Harmon	59	10	1 50
J C Harmon	60	10	1 50
J C Harmon	61	10	1 50
J C Harmon	62	10	1 50
J C Harmon	63	10	1 50
J C Harmon	64	10	1 50
J C Harmon	65	10	1 50
J C Harmon	66	10	1 50
J C Harmon	67	10	1 50
J C Harmon	68	10	1 50
J C Harmon	69	10	1 50
J C Harmon	70	10	1 50
J C Harmon	71	10	1 50
J C Harmon	72	10	1 50
J C Harmon	73	10	1 50
J C Harmon	74	10	1 50
J C Harmon	75	10	1 50
J C Harmon	76	10	1 50
J C Harmon	77	60	9 00
J C Harmon	78	60	9 00
J C Harmon	79	60	9 00
J C Harmon	80	60	9 00
J C Harmon	81	60	9 00
J C Harmon	82	60	9 00
J C Harmon	83	100	15 00
J C Harmon	84	100	15 00
J C Harmon	85	100	15 00
J C Harmon	86	120	18 00
J C Harmon	87	120	18 00
W I Nichols	13	10	1 50
W I Nichols	14	10	1 50
W I Nichols	15	10	1 50
W I Nichols	16	10	1 50
W I Nichols	17	10	1 50
W I Nichols	18	10	1 50
W I Nichols	19	10	1 50
W I Nichols	20	10	1 50
W I Nichols	21	20	3 00
W I Nichols	22	30	4 50
W I Nichols	23	60	9 00
W I Nichols	24	60	9 00
W I Nichols	(No Certificate)	1600	238 50
C W Stevens	balance 91	100	6 67
C W Stevens	balance 92	100	6 67
C W Stevens	balance 93	100	6 67
C W Stevens	balance 94	100	6 67
C W Stevens	balance 95	100	6 67
C W Stevens	balance 96	100	6 67
C W Stevens	balance 97	100	6 67
C W Stevens	balance 98	100	6 67
C W Stevens	balance 99	100	6 67
C W Stevens	balance 100	100	6 67
W J Mowrey	102	18	2 70
J G Mitchell	127	12	1 80
J G Mitchell	128	12	1 80
J G Mitchell	129	12	1 80
J G Mitchell	130	12	1 80
J G Mitchell	131	12	1 80
J G Mitchell	132	12	1 80
J G Mitchell	133	24	3 60
J G Mitchell	134	24	3 60
J G Mitchell	135	24	3 60
J G Mitchell	136	24	3 60
J G Mitchell	137	24	3 60
J G Mitchell	138	36	5 40
J G Mitchell	139	36	5 40
J G Mitchell	140	36	5 40
J G Mitchell	141	60	9 00

And in accordance with law, and an order of the Board of Trustees, made on the sixteenth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Monday, the twenty-fourth day of May, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. ap24

The Annual Meeting of Stockholders of the Williamantic Silver Mining Company, will be held on TUESDAY EVENING, May 18th, at 7½ o'clock, at the office of the Company, No. 418 California street.

ap17-4w C. A. UHRIG, Secretary.

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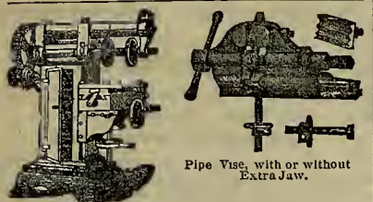

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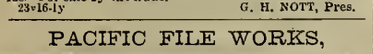

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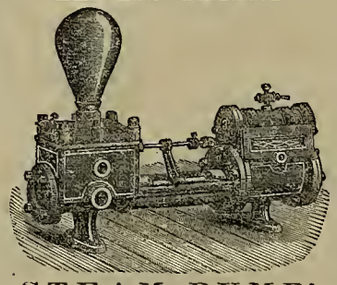

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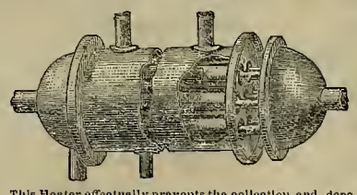

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White Pine Summary.

TREASURE CITY—STRIKES.—*News*, April 27th:—A very important strike is said to have been made a few days ago, seven or eight miles north of Hamilton, in the White Pine Range. Rock has been obtained which assayed $300 to the ton....The same of 28th says:—The discovery to the north of Hamilton has been the means of creating considerable excitement, and it is believed that not less than one thousand men have visited the scene within the last two days. Many claims have been located, and all speak in flattering terms of the prospects.

Inland Empire, 24th:—Yesterday we were shown a beautiful specimen of ore from a mine located on the 10th. The specimen weighed 74 pounds, and was rich in chloride. The piece was broken from the croppings of the ledge, which is located on Blue Hill, southwest of Hamilton. Two assays made from different parts of the ledge, as samples taken for average, gave $84.24 and $94.43. Arrangements have been made to have ten tons worked at two different mills. The ledge is well defined, is 8 feet thick, and is being developed as rapidly as picks and powder will do it.

Same of 27th:—Yesterday a very rich strike was made in the Glazier mine, near the Eberhardt. A shaft was sunk at the point where the Shermantown trail leaves the Eberhardt grade, and at a depth of 30 feet a body of as good ore was struck as has ever been found in the district. We were shown several pieces which is the same as the first quality Eberhardt.

ANOTHER STRIKE.—At a point four miles from Hamilton, came on a ledge showing chloride ore. After two days work some of the ore was brought into town and three assays made, the lowest of which gave a return of $700, and the highest $3,411.37 to the ton. We roasted some of the ore and found it to be of tho richest character. Mr. Johnson gave us a specimen weighing from five to eight pounds, which shows chloride, bromide, sulphide, etc., in every part of it, and has been pronounced by all who have seen it to be equal to first-class Eberhardt. The name given to the claim is the Mohawk No. 10.

MILLS AND SMELTING WORKS.—*News*, 24th:—The smelting works at Swansea, between Shermantown and Hamilton, started up on Thursday, and operated to the entire satisfaction of the smelter, who is one of owners, Richard P. Jones. We understand that three tons of ore from the Galena mine were run through, producing over 1,100 pounds of metal, worth fifty cents per pound in silver—making $550, or about $166 per ton....Same of 27th:—The crushed bullion smelted at the Swansea works from the Galena mine ore is worth $300 per ton in silver. Flux was used; the blast was simply horse power, irregular and weak. It is thought that the mixing of ores from different ledges on the Base Metal Range, will obviate the necessity of using extraneous flux altogether.

ANOTHER MILL.—The *Reveille* of the 24th notices the passage through Austin, bound for White Pine, of a small mill from Dayton. It is designed for prospecting, as its battery consists of three stamps, 125 pounds each, and it has one pan for amalgamation. The motive power will be either water or horses.

McCone's new mill, located over the mountain due east of this city, will commence operations about the 1st of the coming month.

MINING ITEMS.—*News*, 24th:—EL DORADO.—This ledge is believed to be one hundred feet or more in width, and presents the most encouraging indications in every part between the walls. A considerable quantity of ore suitable for milling has been extracted.

DAWSON.—Some excellent samples of ore were last night shown us from this mine, which is a short distance south of Hamilton. The ledge is represented as being large, regularly defined, and the prospects generally encouraging.

VALUABLE HOUSE.—Down on Chloride Flat there is a miner's cabin built of chunks of chloride ore, estimated to be worth over $2,000 per ton. The house is sixteen feet square, and the rock in its walls, if crushed, would yield in the neighborhood of $75,000. The miners who own and occupy this valuable building, of course are doing so temporarily, and will have the ore milled as soon as practicable.

MAURICE.—Same of 27th:—This morning the work of developing of the Maurice mine, between the Virginia and Adkinson, on the northern slope of Treasure Hill, will be actively commenced. Some very rich ore has been taken from this mine.

SPECIMEN.—We are indebted to Chester Gunn for a large and beautiful specimen of ore from the Cremona ledge, at the foot of

the Base Metal Range, on the road between Shermantown and Hamilton. Two specimens were left with us—one assaying from $700 to $1,000 to the ton; the other, taken some distance along the ledge, at a point where the vein is ten feet wide, assays $200 to the ton. The company owning this mine will be incorporated as the Chester.

PHŒNIX.—*Inland Empire*, 26th:—The shaft is down 40 feet, and shows a fine ledge of good ore. The first work done exposed a large body of rich ore, but soon seemed to pinch out, although the foot wall was perfect, and the miners were guided by it. At 40 feet they broke through the horse or cap, and opened on a large body of quartz partially decayed and showing yellow chloride all through it. The ledge where we saw it is loose and easily taken out with a pick. How wide it is no one knows.

INLAND EMPIRE.—This is the name of a new location made next to Mohawk No. 10, and on the same ledge. We have seen some of the ore, which was of very superior quality. An assay gave a return of $723.60. The ore assayed was taken from the top of the ledge. We assert that the ore we have seen from this ledge, considering that it is taken from the croppings, is superior to any that has yet come under our notice in White Pine District.

THE POGONIP.—On the Pogonip mine are four working shafts. The richest ore is taken from a shaft 27 feet in depth, known as the Othello. We might here state that several locations have been purchased by San Francisco capitalists and consolidated under the name of Pogonip. Second class ore is found in all the other shafts; but the Othello yields first class chloride ore. Large quantities of ore are being taken from this mine daily. So soon as custom mills are here work on this mine will be prosecuted vigorously. In the Othello shaft, while we were in the house, a tub of ore came up from which we picked a piece for assay. The piece yielded $712.46 to the ton. The owners are Charles L. Low, his brother Joseph W., and George Oulton, ex-State Controller of California.

OUTSIDE DISTRICTS.—*Empire*, 27th: The mines are located on Pancake Mountain, 15 miles southwest of Hamilton, and 1¼ miles from the Elko road. The croppings assay about $80 per ton. The ore shows chloride. There has been some 40 or 50 locations made since the mines were discovered, which was about the first of this month.

RACINE.—We have received a copy of the code of laws of the Racine Mining District, which is twelve miles square, with its center at Ward's Spring, in Ward's Cañon.

GOLD AT SNAKE.—A gentleman just returned from the Snake Mountain District, informs us that some very rich gold rock has been discovered about seven miles northwest of the silver mines. Some specimens of the rock are now in this city, and one literally lousy with gold.

COAL.—*Empire*, 27th: The Swansea Coal Mining Co. on Saturday filed its articles of incorporation in the County Clerk's office in this county. Capital stock, $1,000,000, divided into 10,000 shares of $100 each. The property of this company is situated along the road between Hamilton and Shermantown, and consists of four quarter sections of land. Some very fine specimens of coal have been obtained from a shaft now being sunk by the company, and the work of prospecting is being carried on vigorously both night and day.

JAPAN.—A British Consul in Japan, Mr. Gower, gives a remarkable account of the wealth of the lead, iron and coal deposits in the island of Yesso. In one place, coal forms the sea cliffs; and in another he walked four miles over an iron sand, which contained over 60 per cent. of metal. There are also indications of gold and copper.

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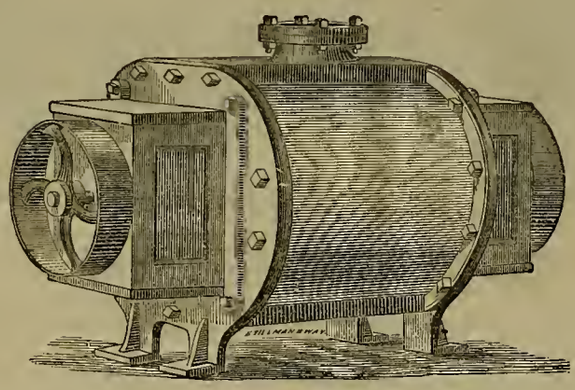

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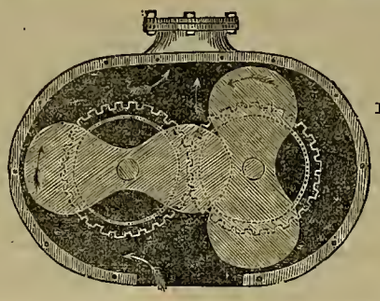

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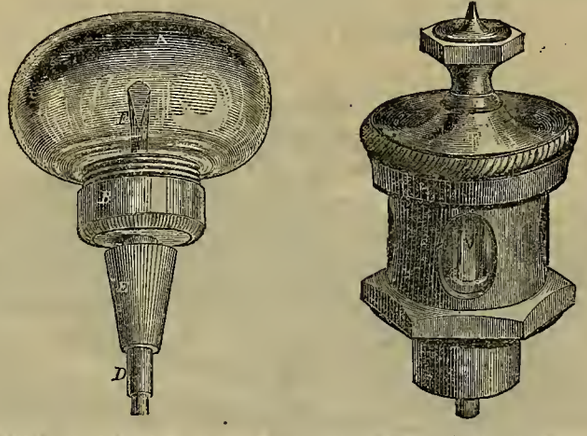

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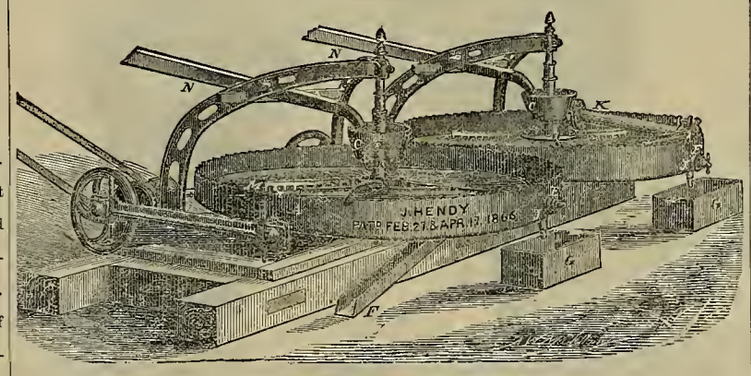

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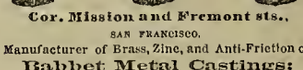
Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.
Office at Union Iron Works.
13v17tf

W. T. GARRATT,
City
BRASS AND BELL FOUNDER



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SAN FRANCISCO, SATURDAY, MAY 15, 1869.

VOLUME XVIII. Number 20.

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The Earth's Surface Oscillations.

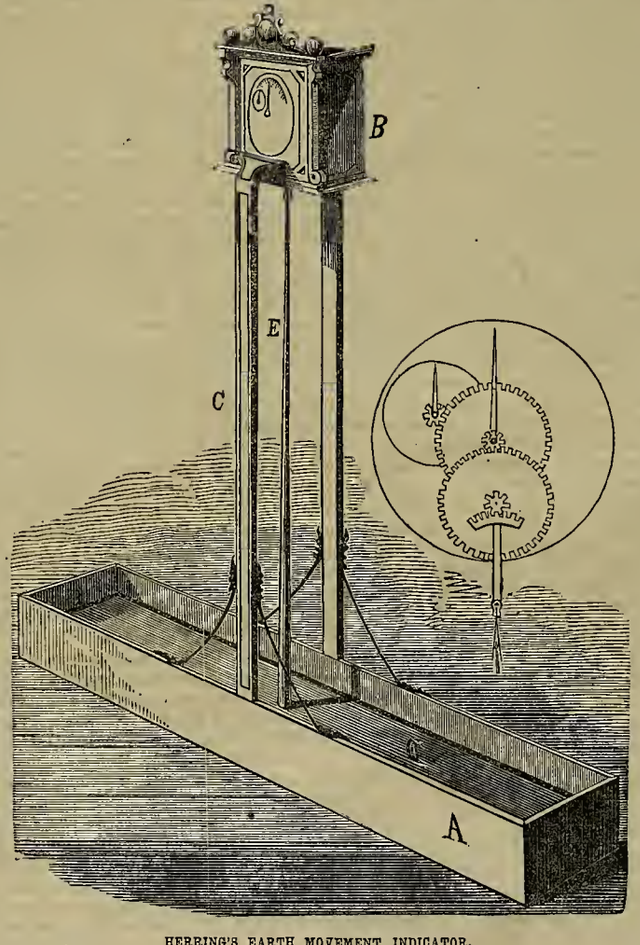
In glancing over that branch of history which records the successive steps that were taken by the living generation's predecessors in the development of our several "sciences," it often appears striking to observe how some of the simplest and most important truths or principles were so long overlooked; until, of a sudden, the surrounding circumstances seemed to develop them and all their connections into something like a necessity, that thereupon riponed into results as naturally as is the case in any other natural "consequences." It seems strange, and yet is a fact, that Geology, the Science of Time,—as Astronomy is the Science of Space,—had its beginnings since the advent of persons living, only a hundred years ago, in that ancient, and very unexcited mining town of Freiberg, in the Erz Mountains. Werner, and Von Buch, the recognized fathers of the science, with Humboldt, and a few other practical students, from frequent going down and employment in the veins of mother Earth, from surveying of faults and tracing of formations above ground, observed that the rocks were not all alike, and began classifying them; the result being a separation of all into a regular series, known and named by fossils of wonderful extinct animals, which reveal to us creations upon creations, and lead us back to an infinite past.

The entire series was sketched on paper, by followers, in a complete section of the earth's crust. The labor that geologists are now doing is principally in mapping the rocks of the globe according to the times, or geological ages, in which they were elevated above the seas, whose living animals they entombed, and so preserved, to declare to us their history and the conditions of the gathering of the precious metals they contain.

The eruptive dykes or veins of granite, trap, porphyry, and lavas, that fill so many of the fissures opened by internal forces, have not furnished us with a satisfactory account of the interior of the thickening crust. No clue is left us but a lithological one, of the chemical results, with the knowledge that they were erupted in the order named. Earthquakes, however, periodically, and sharply, remind us of the same problem in phenomena that group themselves under what we call physics.

Meantime, since all old geological changes are evidently the results of elevation and depression, since earthquakes, too, are but exhibitions of the physical phase of interior geology,—since we are unable to advance any farther at present on the chemico-lithological road,—it seems remarkable that no more has been done by geologists toward a systematic observation and calculation of data from known phenomena under the physical head, in view, especially, of the very striking and important facts touching slow elevation or depression of sides of continents, and changes of plane of level of extensive districts, that have forced themselves upon the attention of man in all portions of the globe.

Detailed facts of this kind are to be found in instances too numerous to mention. A communication in *Silliman's Journal* a few years ago, recorded the fact that the smooth top of a mountain in New Hampshire, which was just visible over some intervening rocks from the door-step of the observer in his youth, had gradually sunk out of sight. It has been proven by the most unfailing tests, that the firm earth is an unsteady base for astronomical observations. Dr. Robinson reports to the British Association "that he found the entire mass of rock and hill upon which the Armagh Observatory is erected, to be slightly, but to an astronomer quite perceptibly, tilted at one season of the year to the east, and at another to the west." Prof. Airey, the Astronomer Royal, says: "There have been instances when the azimuth of the Greenwich transit instrument has varied four seconds, as determined by the opposite passages of the polar star;" and he explains the fact by supposing "that the soundest and firmest earth is itself in motion." Independently of regular oscillation, attributable to lateral pressure from permanent interior shrinkage, or to a supposed daily or annual tidal influence, manifested in a periodical frequency of slight earthquake shocks, another cause may be mentioned, viz., that discovered in an eastern observatory, situated on a cliff of rock where a slight daily oscillation in the level of the instruments was observable, and was ascribed to the expanding influence of the heat of the sun upon the side exposed.



HERRING'S EARTH MOVEMENT INDICATOR.

With a view to observing and recording these ordinarily imperceptible surface oscillations, Mr. F. A. Herring, of Forbestown, California, has invented the device represented in the accompanying illustration, which may be briefly described as follows: The box A, is to represent a large reservoir, partly filled with water, and designed to be placed at sufficient depth in the ground to secure even temperature. O, is a wooden float covering the surface of the water. The slightest oscillatory motion of the earth will change the surface of the water and produce motion of the float and the standard E, whereby action will be imparted from the point of the standard to a system of gearing in the case B, moving the indicator shown on the face of the dial. On the right of the engraving will be seen an enlarged view of the gears, showing the segment which actuates the system through the movement of the depending lever in which the point of the standard E is inserted. Thus, on the slightest oscillation of the float, the point of the standard E will be many times multiplied and minutely indicated by the pointer on the dial-plate.

Whether this is better than any ordinary level may be a doubtful question; the principle we wish to illustrate remains the same. To indicate changes of level in different azimuths, a number of them would have to be used. Vertical elevations or depressions of entire districts or belts could be discovered by a comparison of the direction of a number of angles of greatest elevation, taken at different points.

A map of actual elevations and depressions in progress at different points on the surface of the earth—known, or believed to be constant in their character—has been attempted by Andrew Murray, in his "Geographical Distribution of Mammals," (London, 1866). The entire eastern coast of North America, from Greenland to Texas, is represented as an area of subsidence; the western coast, including all of South America, as an area of elevation. The Sandwich Islands are marked as rising, the Marquesas as sinking; South Australia as rising, and North Australia as sinking. Earthquakes and volcanoes appear to be very frequent only on rising ground.

It is evident that so rapid a sinking, geologically speaking, as is shown in the tide mills on the New Jersey shore, would, in the smallest fraction of time, such as we see marked in geological results, be enough to transform whole States, and even continents, into sea-bottoms, or vice versa. Violent upheavals are not now believed by geologists to have been amongst the ordinary and most general agencies of geological change.

As to earthquakes, we know they are happening every day, and probably unceasingly around the globe. The Admiralty Manual of Great Britain figures *seismometers*, by which the more violent features can be observed. But with more delicate instruments slight shocks otherwise never suspected, and happening at very great distances, can and *will* be hereafter more observed.

[Continued on page 308.]

[From Rowlandson's "Earthquake Dangers, Causes, and Palliatives"—just published.]

Hardening of Mortar, Climatic Conditions, Etc.

Lime, as is well known, when made into a paste with water, forms a somewhat plastic mass, which sets into a solid as it dries, but afterwards cracks and falls to pieces. Lime, consequently, does not possess sufficient cohesion to be used alone as mortar. To remedy this defect, and to prevent the shrinkage of the mass, the addition of sand is required. Sharp, quartzose river sand, is best adapted for this purpose. Books direct that the sand to the lime employed in making mortar should not be less than three measures of sand to one measure of lime, or more than four measures of the former to one of the latter. My own experience is, that if both materials are of the best quality, at least three and one-half measures of sand should be mixed with one of lime; and even a mixture of four measures of good Black Point sand mixed with one measure of well-burned Santa Cruz limestone, would make a much better cementing material than anything of the kind which I have seen used in the erection of stores and buildings in this city. I have used Black Point or North Beach sand for the purpose of illustration, because the sand at those places presents the general qualities of that material likely to be continued in use for the purpose of making mortar in San Francisco. It is sand of a quality that may be termed fair for the purposes under consideration, but not first-class When less than three and a half measures of sand to one of lime are used, the mortar so compounded does not set so well, nor so quickly, as with the proportions recommended. For building garden walls and masonry, or brick-work of a similar character, even one barrel of good lime, if well mixed with five barrels of the sand named, will afford, in most localities, a good enough cementing material for the purpose required in such instances. After the mortar has been *laid*, its subsequent hardening depends chiefly upon the thorough incorporation of the lime and sand during their mechanical intermixture.

This hardening of mortar is a somewhat obscure subject, and has never been sufficiently investigated in a scientific manner, though the writer believes, for reasons which will afterwards be adduced, that few subjects possess (unless masonry and brick-work are to be abandoned in the future erection and re-erection of stores and dwellings) a more economical interest to the residents of a city placed like San Francisco in a district which from time to time will be subjected to eartbquake shocks.

After a careful examination of the damage done by the earthquake of 1865, I came to the conclusion that all the structures then injured, with very few exceptions, had their primary origin in defective mortar. The falling of the front of Popper's building was in consequence of a defectively supported and inartificial arch. The bricks displaced on the fire-walls of the same building could scarcely be chargeable as having been caused by using bad mortar, seeing that they had not been set more than a few days. Another marked exception I noted, to which the charge of bad mortar could not be fittingly applied, viz: the case of the entire front of a building, in the course of erection on Pacific street, which was thrown bodily into the street. In the latter case the bricklayers had only ceased working on the afternoon previous (Saturday), and the mortar had not time to set. A few cases also occurred where long and elevated fire-walls, not strengthened by any brace, were wholly or partially thrown down. All the other accidents on the occasion of the earthquake of 1865 may be traced absolutely to the circumstance of employing a bad material of mortar for building purposes. Similar remarks to those last made would apply, with pretty nearly equal justice, to the San Francisco earthquake of October, 1868. In the latter instance, however, no small share of the damage occasioned took place on, and was in a large measure caused by, the injured buildings having been built upon an artificial and imperfectly made foundation.

The simplicity of the operation of making ordinary lime mortar is such that the primitive method adopted thousands of years ago, has been continued over the lapse of the long intervening ages, without other change than the varieties in slacking, and the proportions of the ingredients to be mixed, just as the operator was desirous of obtaining a first rate or inferior article, accordingly as wisdom or ignorance or roughish parsimony, prevailed. Notwithstanding the antiquity of the process, and the long continued observation of the *hardening* of mortar in masonry and brickwork, on which quality its valuable property as cementing material almost wholly resides, the theory of this *hardening* is very obscure and imperfectly, if at all, understood. The writer became more specially impressed with the last named fact in consequence of hearing it repeatedly remarked after the earthquake which occurred in October 1868, in reply to observations made by him respecting the inferior character of the mortar employed for building purposes in San Francisco, that this inferiority arose from the mixture of impurities, such as decaying vegetable matter, salt, etc., in the sand employed in making the mortar used in this city; but the most observant and those most practically acquainted with the subject, such as architects, builders, etc, have in general arrived at the conclusion that some unknown climatic cause was the influencing agent in causing the solution of cohesion of mortar in this locality. My own views in the first instance were that overdosing mortar with sand, and aggravating the evil by using simultaneously a portion of hydraulic cement, accompanied by insufficient incorporation of the materials employed, were the chief influencing causes in occasioning that friable condition of mortar observable, after having been used only a few years for architectural purposes.

That climatic conditions should entail such deteriorating consequences as have been asserted by many, was, and still is, much doubted by the writer, yet a more careful study of the subject induces him to infer that these conditions may, and probably do, in more ways than one, injuriously affect the quality of lime mortar as a cementing material in our California climate,—a circumstance, however, greatly aggravated by the use of too large quantities of sand and mixing with hydraulic cement,in place of using pure lime, sand and water alone. It is well known that the induration of lime mortar is principally, indeed, for practical purposes, wholly induced by the absorption of carbonic acid,—in other words the reconversion of the lime of the mortar into its primitive condition of carbonate of lime, limestone, or chalk. This process of reconversion of the lime in mortar into a carbonate continues over a great length of time, especially in dry climates, and for the purposes of this inquiry the climate of California may be classed as amongst the dry ones. Well made lime mortar, after its application, becomes dry upon its surface, while at the same time it absorbs carbonic acid from the atmosphere; so far, however, as experimented on by the writer, with mortars from old castles erected from four to seven centuries ago, in various parts of Cumberland, 'Westmoreland,' Lancashire, Yorkshire, Chesbire, and Staffordshire, a portion of the lime was always found in the caustic state or uncombined with carbonic acid, and Dr. Malcolmson found that mortar obtained from the Great Pyramid still contained a large portion of hydrate of lime.

A recent writer in the *Chemical News*, however, has stated that mortar obtained from Pevensey Castle, England, was not only free from any trace of hydrate of lime, but of silicate of lime also. I have quoted the last statement because such an occurrence is different from my own trials with mortar obtained from old castles in other situations, and also as being at variance with the results of all other experiments on this subject with which I am acquainted. This last circumstance is, however, one of very little economical importance to the matter at present under consideration.

If, on the contrary, fresh-made mortar is preserved from access of the atmosphere by any means,—such as being placed under ground, or being closely covered, especially if in considerable masses,—not only will its original properties be fully maintained, but its utility as a cementing material will be increased; the fact that old but well-preserved mortar was superior to that newly made, was a fact recognized and acted upon by the Romans, for, according to Pliny, Roman builders were forbidden by the law from using mortar less than three years old. At Vienna, I am informed, a law exists that mortar shall not be used until it is twelve months old. Of recent cases, commented upon by celebrated engineers, may be mentioned one which occurs in the writings of Smeaton, the engineer that designed and superintended the erection of the Eddystone Lighthouse. Smeaton had occasion to take up a large flat stone, of close grain, of about five feet square, that had probably not been moved for more than a century, having formed the bottom of a malt cistern, found on its removal that it had been bedded on a thick mass of mortar, which had become coagulated to a thick mass resembling cheese in consistence; but had never become perfectly dry, the original humidity having been so far retained that on being subsequently well beaten up without any addition of water, and afterwards allowed to dry, it speedily *set* to a stony hardness, the induration being much more rapid than what is observed with mortar as ordinarily made, and used soon after being mixed. One of the most remarkable instances of a similar character occurred at a German fortress, whose name I do not now remember, when in consequence of a siege, a large quantity of mortar, not being needed for present use, was covered up, and afterwards forgotten until subsequently discovered nearly two centuries after it had been made; the quality of the mortar so preserved was found on trial to be of the most superior quality. In employing old-made mortar, it should be kept in view that it ought to be well mixed, mechanically, before use, otherwise the major part of the benefits derivable from the employment of old, but not desicated mortar, will not ensue. There can be no doubt that the extra mechanical mixing required by long made hydrated mortar forms a most important feature in promoting its utility. As an illustration of this point it may be mentioned that it has long been known that grout, which only differs from ordinary mortar in consequence of its being made more liquid, owing to a more liberal use of water, is frequently found to *set* with difficulty; if, however, previously to being used, such grout is long and thoroughly beaten and mixed, it will be found, on application, to harden much more rapidly by such beating, often being found susceptible of hardening in the course of four-and-twenty hours.

There exists no doubt in the mind of the writer that one of the causes for the superiority of mortar that has been long made is found to be in the fact that the lime employed becomes more thoroughly hydrated, as it is well known that the ordinary plastering of walls occasionally *blisters*, in consequence of deficient hydration of the lime composiug the plaster, when the latter has only been recently prepared.

Although the last named fact is by no means an unimportant one, it will not suffice for the great advantage found to be derived from the use of mortar that has long been mixed, the chief cause of the beneficial effects derivable from employing mortar that has been long made must be sought for elsewhere. To the writer it occurs that the great difference which takes place in the time required for hardening, and the full development of the cohesive and adhesive properties, of newly and long-made mortars, arises from the fact that in new-made mortar the hydrate of lime exists in an amorphous, while in old-made mortar the lime, either wholly or partially, changes the amorphous hydrate into the crystalline condition, the latter being one more probably calculated not only to retain moisture but also to absorb more readily carbonic acid from the atmosphere, its molecular condition at the same time being more susceptible of conversion into a crystalline carbonate, by the absorption of the gas named. If future experiments should demonstrate the opinion just given as being based on correct views, it would be easy to point out modes by which the same end could be attained without waiting the slow influence exercised by time, however sure and beneficial that influence may be.

From the function which carbonic acid plays in the hardening of mortar, the consideration of its properties is intimately allied with the development of its full adhesive and cohesive powers. This gas is absorbed in volume by water, to a trifle more than its own bulk, at the ordinary temperature and pressure of the atmosphere, being proportionately less, with the increase of the former and decrease of the latter, the proportion absorbed by vapor of water is probably *cæteris paribus* in like proportion. In England, which may be said to possess a moist elimate, it has been ascertained that its atmosphere contained in 100 volumes, 1.40 of aqueous vapor, and .04 of carbonic acid. Yet from such a small proportion of carbonic acid existing in the atmosphere, all the lime mortar which we employ for building purposes has to become indurated by its absorption,—an absorption which will be accelerated or retarded in proportion to the moisture present in the mortar employed, or in the atmosphere. If moisture is retained by mortar, from that cause alone it will be more susceptible of absorbing carbonic acid from the atmosphere. If the atmosphere happens to be saturated with aqueous vapor, it will yield carbonic acid to newly-laid mortar in greater quantity. If, however, the atmosphere happens to be a dry one, as that of California is during the Summer months, the tendency will be for the atmospbere to withdraw moisture from fresh-laid mortar, and thus impair its power of absorbing carbonic acid, while at the same time it is highly probable that in such a desicated state of the atmosphere a less volume of carbonic acid exists therein than when the same is more saturated with aqueous vapor. It is from the causes just assigned that it has been observed that the mortar employed in building in San Francisco hardens more rapidly in the winter than in the summer season.

As if to render these unfavorable conditions still more injurious, hydraulic cement is habitually mixed, in San Francisco, with lime mortar. Such a step undoubtedly aids the more immediate hardening of the mortar so made, but it is at the expense of the future adhesive and cohesive properties which it would attain in the course of time, by the slow absorption of carbonic acid.

Losses by Cattle Sickness.—Mr. Capron, in his agricultural report for 1867-8, says that the annual loss of farm animals, in the United States, from fatal maladies (deaths from old age or accidents not included) reaches the enormous total of $50,000,000 in value. The losses of swine from "eog cholera" and other diseases, peculiar to that class of animals, is set down at $10,000,000. These are large sums to be taken from the pockets of the people, and seems to call loudly for some reliable system of medical practice, by which the diseases of our valuable domestic animals may be treated. It is a singular and deplorable circumstance, in view of the above facts, that there is no properly organized institution in this country where the medical treatment of animals can be studied. Such institutions have long existed in Europe, and are found very useful in keeping the country free from a horde of vulgar empines, and in providing a well educated class of men, whose occupations are both useful and honorable. The Commissioner has done a good service to the country in calling attention to this great necessity; and agricultural organizations, throughout the Union, will do well to agitate the matter, until some definite steps are taken to meet the emergeucy.

More Mills.—The *Empire*, published at White Pine, is informed that ex-Governor Low of California, has been directed by the owners of the Pogonip, to order the machinery for a mill, and that it will be ready to work in a couple of months.

Size of London.—It has 320,000 houses. Its streets would, if placed in line, reach from Liverpool to New York. It has 360,000 street gas lamps. It uses 44,000,000 of gallons of water per day.

Mechanical.

GUNPOWDER HAMMER.—Thomas Shaw, of Philadelphia, has invented a hammer for pile driving or other purposes, in which the effective force is increased by a small charge of gunpowder. The powder is placed in a cylinder separate from the hammer, and resting upon the pile or other object to be struck. A plunger upon the under side of the hammer fits into this cylinder, and at its fall is forced into it, compressing the air and heating the powder, which is exploded; thereby not only forcing the cylinder downwards with about eight times the force which the fall alone of the hammer would have exerted, but also throwing up the hammer again to its place, where it is caught and held by a pawl in the side rack. For the next blow it is again released by pulling a cord attached to this pawl.

CALCULATION FOR THE BENEFIT OF EMPLOYERS.—In a lecture at the Royal School of Mines, Mr. Warington Smyth, after describing the old arrangement which obliged miners employed in shafts to climb up and down long ladders every day, to and from their work,—says: "At last in 1839 a machine was contrived in the Hartz for raising and lowering the men. The importance of the change will be obvious if we consider the actual loss to employers (let alone the wear and tear on the men), as it often takes half or three-quarters of an hour to go down and to come up. Let us suppose 600 men are employed, and have to descend 1,200 feet to their work, and that each man weighs 120 pounds. Each man will have, of course, to lift his own weight, and, therefore, the whole will lift—600×120×1,200=86,000,000 pounds. To raise one million of pounds a foot is a good day's work for a man, so that there is lost the work of 86 men. Taking each man's labor as worth 6*s.* a day, that gives a total of 12*l.* 18*s.* loss in money value per diem, or for 300 working days in the year, 3,870*l.* per annum is lost. This is a sum large enough to put up a steam engine and raise and lower the men by machinery. The idea was hit upon in a similar manner at the same time in Cornwall. Watching the action of the pumping-rod, the two observers conceived the idea that by making a foot-hold on the rod, the miner would be drawn up the length of each stroke, when he could step off on to a platform, and then on to the rod on the other side, which would just be ready to ascend."

PHOTOGRAPHY AT NIGHT.—A newly-devised closet of reflecting paper-cloth contains the sitter, and the burning of a little magnesium at the top furnishes the light. The pictures are taken in twenty seconds, at a cost of nine cents. The arrangement is patented by an inventor in Salem, Mass. The newness and the success of the thing is in the fact that the light-colored walls of the oval closet are very near the sitter, and the light therefore thrown upon him in every direction.

QUICKSILVER COATING FOR IRON.—The iron is cleaned with hydrochloric acid, and then immersed in a dilute solution of sulphate of copper with a little of the acid aforesaid. The thin coat of copper produced thereby is to be cleaned off; the iron is then placed in a very dilute solution of corrosive sublimate, with a few drops of the acid. The iron will now be covered with a mercurial coat, which cannot be rubbed off. If washed with muriate of ammonia solution, it will effectually prevent rust.

THE SIEBERT PROCESS.—A company of Baltimore capitalists has purchased several thousand acres of land in Virginia, upon which they propose to establish extensive iron works, where the Seibert process, for making steel direct from the ore, will be employed.

CYLINDER CONTENTS IN GALLONS.—A simple rule for finding the capacity of cylindrical vessels in gallons, when the dimensions are taken in inches, is to multiply the square of the diameter by the hight, both in feet, and by 5⅞, which gives a correct answer to one gallon in twenty thousand. *Cor. Scientific American.*

TEMPERING STEEL.—An English blacksmith claims to have discovered a mixture which will give to the commonest steel the grain and the temper of the finest cast metal, and, moreover, will bring back the original quality of steel which has been burnt. The mixture is as follows: with sixteen litres of distilled water mix one kilogramme of hydrochloric acid, nineteen grammes of nitric-acid at 36°, twenty-one of sulphate of zinc, and one hundred of tripoli. In this is to be placed a piece of cast iron of the first fusion, weighing one hundred grammes; when the mixture has acted on the iron for twenty-four hours, the composition is ready for use in the ordinary way, and remains effective till it is all used.—*Colliery Guardian.*

WATER-PROOF GLUE.—We find the following among the "Answers" in the *Am. Journal of Mining:* "It is easy to add to a dissolved substance an ingredient which will, when once dry, prevent it from dissolving again. Bichromate of potash is such an ingredient; but when this is used, the glue should be exposed to light, which will make it totally insoluble. The addition of white lead ground in oil to the watery glue solution, making an emulsion by means of borax or ammonia, is another prescription; likewise, the addition of a solution of rubber in benzole, etc. Paris white, zinc white, or white lead, all in very fine powder, diminish to a certain extent the solubility of the glue.

EXTRACTING ALUMINUM FROM ITS ORES. A Boston chemist has patented the following method: He mixes alumina with gas tar, resin or petroleum, which is divided into pellets; these are dried in an oven, then placed in a strong retort, lined with plumbago, and exposed to a cherry-red heat. Hydrocarbon gas is generated and pumped into the retort, and the supply maintained. By this process the alumina is reduced and the metallic aluminum remains as a spongy mass, mixed with carbon. This is then remelted with metallic zinc, and when the aluminum has collected in the metallic state, the zinc is driven off by heat.

CARS ADJUSTABLE TO GAUGE.—Ten freight cars have been built to run between Chicago and Boston,—changing twice on the route from one gauge to the other. "The device is simple,—consisting of a tube or 'sleeve,' on the inside of the wheel, and homogeneous therewith, through which the axle passes, being fastened thereto by keys dropped into the axle, which are held in place by a longitudinal pin, itself secured by a screw. A car can be changed from one gauge to the other in twenty minutes, the keys being taken out, and the cars three at a time being run along a widening or narrowing track."

HORSE-POWER IN THE STEAM ENGINE.—The usual estimate for one nominal horse-power in the steam engine is that the product of the pressure on the piston in pounds, with the distance passed over in one minute in feet, is 33,000; consequently, a pressure of 33,000 pounds moving one foot, 3,300 pounds 10 feet, 330 pounds 100 feet, or 33 pounds 1,000 feet, would be considered equal to one-horse-power.

TRANSPORTING MATERIALS.—A new method of transport adopted in England for conveying stone from quarry to railway, three miles, consists in the employment of an endless wire rope, supported on pulleys, at a considerable hight from the ground on stout posts. A portable steam engine drives the rope at about five miles an hour, and it carries with it a continual stream of boxes, each holding one hundred weight of stone. The full boxes travel at one side of the support, and the empties return at the other.

TO COLOR ZINC BLACK.—Zinc may be given a fine black color by cleaning with sand and sulphuric acid, and immersing for an instant in a solution composed of four parts of sulphate of nickel and ammonia in forty of water, acidulated with one part of sulphuric acid, and washing and drying it. The black coating adheres firmly, and takes a bronze color under the brusher.—*Knapp.*

WELDED BOILERS.—A contract was recently let to a Belgian firm for the making of twenty boilers thirteen feet long and three and a half in diameter,—the whole to be of half-inch plates, and to be *welded* throughout. No English firm would take the contract.

MACHINE TOOLS.—"One of the best features of modern mechanical engineering is the use of special tools that can do one thing rapidly and truly, instead of convertible tools that can do anything."—*American Artisan.*

Scientific Miscellany.

The Amœba.

This extraordinary organism, the simplest living sarcode, is thus described, in popular language, by the *London Quarterly:* "Conceive of a minute drop of transparent jelly, invisible without a microscope, studded with a dust of opaque granules; sometimes hiding in its midst a more solid rounded body or kernel called the nucleus, and perhaps with the outer rind a little different from the internal mass. Conceive of this *amœba* as of no constant shape, but shifting, as we look upon it, from one form into another. At one moment it is a star with straggling limbs, at another, club-shaped; now it is a rounded square, soon it will image an hour-glass. None of these changes can be referred to currents in the water, or to any other forces acting directly upon it from without. It seems to have within it an inborn power of *flowing*, whereby this part or that moves in this or that direction. * * As it moves without muscles, so does it eat without a stomach. Meeting in its travels with some delicious morsel (diatoms are its food), it *pours* itself over its meal, as if a piece of living dough were to creep around an apple and knead itself together into a continuous envelope. Watching the feed thus enveloped, we see it grow fainter and fainter as its nutritious constituents become dissolved; and when all the goodness has been got out of the meal, the body of the eater flows away from the indigestible remains just in the same way that it flowed around the original morsel. This creature, eating without a stomach, moving without muscles, feeling without nerves, and breathing without lungs,—a being of no fixed shape,—which changes its form according to its moods, and turns its outside into its inside whenever it pleases,—which is without organs, without tissues, a mere speck of living matter all alike all over, nevertheless builds shells which are in many allied forms "of extraordinary complexity and singular beauty." Prof. Huxley says: "That this particle of jelly is capable of combining physical forces in such a manner as to give rise to those exquisite and almost mathematically arranged structures—being itself structureless and without permanent distinction or separation of parts—is, to my mind, a fact of the profoundest significance."

NITRATE OF SILVER TEST FOR ARSENIC. C. E. Avery in *Silliman's Journal* for March, says that it is not easy, without great care, to detect small quantities of arsenic by this test as usually applied, because the arseniate of silver is soluble both in ammonia and dilute nitric acid; but that if the liquid to be tested is rendered incapable of dissolving that salt, the test is easily made. He says: "I find, by experiment, that the addition either of acetate of sodium, acetate of ammonium, or Rochelle salt, to a mixed solution of arsenic and nitric acids, is sufficient to insure the immediate precipitation of arseniate of silver, when ammonio-nitrate of silver is introduced. By placing a small quantity of a nitric acid solution of arsenic acid upon a watch glass, stirring into it a few drops of a strong solution of either of the alkaline acetates or of Rochelle salt, and then adding a drop or two of ammonio-nitrate of silver, the characteristic brown-red precipitate of arsenate of silver is at once thrown down, even when the solution under examination contains comparatively little arsenic."

THE ACCEPTED SOLAR SPECTRUM THEORY WRONG.—In M. Janssen's report on the observations made at Guntoor upon the eclipse of August last, he remarks that the "promineuces" gave bright-lined spectra only, without the dark lines of the solar spectrum. Upon this point he says: "Now it must be admitted that if an atmosphere composed of the vapors of the different elementary bodies whose presence has been recognized in the sun did really surround the photosphere, it would give a spectrum at least as brilliant as the 'prominences' consisting of gaseous matters in a far more dissociated and less luminous state. It must, therefore, I think, be allowed either that this atmosphere has no existence, or that its altitude is so small that it has escaped our notice. I confess that this deduction has not taken me by surprise. My study of the solar spectrum has led me to doubt the existence of any extensive atmosphere surrounding the sun, and I have been induced to believe more and more that the phenomena of elective absorption are in truth produced in the photosphere itself by vapors, or by the floating particles, solid or liquid, of photospheric clouds. This view appears to me not only to accord with M. Faye's theory of the constitution of the photosphere, but to be in a measure necessitated by the acceptance of this theory. In fine, the eclipse of the 18th of August to me appears to demonstrate that the constitution of the solar spectrum has *not* been satisfactorily explained by any hitherto accepted theory, and that the subject needs reconsideration."

SALT AS A MANURE.—M. Peligot thinks that scientific agriculturists labor under delusione in reference to the action of salt; he believes that in the case of impermeable soils through which the water passes slowly, the influence of salt is more hurtful to crops than beneficial. He is opposed to the notion that it undergoes a change in the soil by which it becomes carbonate and then nitrate; in fact, the only use of salt which he recognizes is that due to its antiseptic action, by which it retards the decomposition of ordinary manures.

OXY-SULPHIDE OF CARBON.—This gas has recently been discovered by Thau. It is composed of one atom of oxygen, and one atom of sulphur, and may be regarded as carbonic acid in which one atom of oxygen is replaced by one atom of sulphur. It is formed when not too dilute sulphuric acid acts upon sulpho-cyanide of potassium, and must be freed from hydrocyanic acid, vapor of water, and sulphide of carbon, that are simultaneously produced.

This newly-discovered gas appears to be widely disseminated in nature, but as it is so easily changed by water into carbonic acid and sulphureted hydrogen, it frequently escapes detection. It is undoubtedly contained in most mineral springs where carbonic acid and sulphur are present. These mineral waters, fresh from the spring, have no disagreeable odor, but in a few days smell decidedly of sulphureted hydrogen. Practical applications of the gas remain to be suggested, but it is an important scientific discovery.—*Journal Applied Chemistry.*

TRANSMISSION OF GASES THROUGH COLLOID SUBSTANCES.—In a recent lecture at the Royal Institution, Dr. Odling said, in regard to the transmission of gases through india-rubber, etc., that the "gas appears to be condensed at the nearest surface and to pass through the pores of the material as a volatile liquid, which evaporates on the other side. He took a long glass tube, with its upper end closed with a single thickness of calico. When the tube was half filled with colored liquid and its lower end placed in a dish of water, the water in the tube ran out, because of the rapid passage of air through the holes in the calico. But when the calico was wetted with water, the column of liquid was sustained in the tube, as air could enter then only by dissolving in the water and evaporating on the other side—a very slow process. Ammonia being very soluble in water, passed through quicker, which the lecturer proved by inverting a jar of ammonia over the wet calico, thus causing the liquid in the tube to descend more rapidly. Liquid ammonia dropped upon the wet calico was also seen to act more vigorously than the gas which had to dissolve in the water before it began to pass."

THE "BLUE CUP" OF THE CANDLE FLAME.—E. W. Hilgard on "Luminous Flames," in *Silliman's Journal*, says:

"The part performed by the blue cup, viz: that of a self-heating retort with walls impervious to oxygen, in which dry distillation is accomplished; its theoretical import, as the counterpart of the luminous portion, where the same gases are burnt with evolution of light, render the neglect with which it has been treated doubly surprising. That it is totally distinct from the outer veil is rapidly perceived when the eye is protected from being dazzled by means of a screen of the shape and size of the luminous hollow cone. The veil is then seen surrounding the blue cup as well as the higher portions of the flame, and is thus proved to be nothing more than a zone of glowing gas; which of course, however, cannot be strictly defined from the luminous envelop, the oxidation being a gradually progressive one, from the highly luminous central portion to that brownish, semi-transparent zone of transition, where the carbonic oxide, burning simultaneously with hydrogen, fails to produce its characteristic blue tint because of the excessive temperature existing there."

[Continued from page 305.]

We recently alluded to interesting observations of the kind that were made at St. Petersburg. The angle of emergence of the wave force being noted, calculations of the depth of its origination can as easily be made as a meteor can be located flying; and the results could be mapped on circular planes of paper or pasteboard fitted into a glass globe. It is not unreasonable to expect that even the most casual observations of the earth's surface oscilations, whether of the slow and regular kind ascribable to the lateral contraction of the crust, or the manifestatation of earthquake forces whose origin is yet more in dispute, will ere long carry us considerably in advance of our present knowledge touching the philosophy of the framework of the globe, the mountain lines and continental expansions that give its surface character and beauty, the entire series of unstratified rocks that come from the interior, the philosophy of earthquake centers, and the origin and direction of mineral viens.

Mr. Herring has an eye also to practical matters, as will be seen from the following remarks advancing a tidal theory of earthquakes:

"The disturbing forces are both cosmical and tellnric. It is well known, that the combined attraction of the sun and moon, lifts the waters of the ocean several feet above the average level. While the earth was yet plastic, there must have been a daily tidal motion of the molten mass, and as the crust formed there must have been a succession of slight earthquake shocks, due to the rising and falling of the parts as the crust adapted itself to the changing form of the earth.

"This daily tidal motion continued during the period of the folding of the early formed slates and up to the beginning of old red aandstone era, and perhaps later.

"If we refer this periodical tilting motion to the annual tidal motion of the molten mass within those slight oscillations of the soil which occur so frequently in countries subject to earthquakes, may be due to the slight annual variation in the form of the earth, and shonld occur most frequently at the ebb and flow of such tide. Numerical inquiries on the distribution of earthquakes throughout the conrse of the year, such as those of Von Hoff, Peter Merrian, and Fredrick Hoffman, bear testimony to their frequency at the periods of the equinoxes. The slight oscillations arising from the alteration in the form of the earth, are quite distinct from the desolating earthquakes due to its reduction in bulk.

"In order to show that the interior of the earth ia of a yielding nature, it is only necessary to mention the well known fact, that while some portions of the earth's crust have been permanently upheaved, considerable areas have been depressed or sunk to great depths. These forces are ever active; that which arises from the shrinkage of the molten interior, being adequate to cause destructive earthquakes, while that arising from the attraction of cosmical bodies is an aggravating force which would have a tendency to determine them within certain limits, viz., the period of the equinoxes, and probably cause them to be more frequent at or near the conjunction of the moon with the sun. If these premises are correct, there should be a constant oscillatory movement in the earth's crust, as is proven by the observations of astronomers. This oscillatory movement is supposed to increase in intensity as the period of desolating earthquakes is approached, or until the solid crust is unable longer to resist the immense lateral strain. Now if we had an instrument sufficiently sensitive, the amount of this oscillatory movement might be detected and measnred up to the crushing or breaking point. After this is once ascertained, an approaching series of destructive earthquakes might be detected and its period foretold with unerring certainty."

A batch of metallurgical subjects, including a newly patented electro-metallurgical process, the invention of Prof. A. F. W. Partz, of Oaklaud, will be noticed next week.

In Press.—A small pamphlet, entitled "Treatment of Rebellious Silver Ores by Amalgamation, Without Roasting," by Chas. H. Aaron, will soon appear, published by Dewey & Co.

Communications.

[Written for the Mining and Scientific Press.]

Ore Deposits and Geology of Treasure Hill and White Pine District.

BY J. E. CLAYTON, M. E.

GEOLOGICAL AGE AS DETERMINED BY FOSSILS.

The interior plateau of the Continent lying between the Sierra Nevada and the Rocky Mountain ranges, commonly called the Great Basin, has been so repeatedly described, that it is unnecessary to attempt it in this connection, further than to say that it is a great plateau of mountains and valleys, varying in elevation from four to ten thousand feet above the sea level. This is the great volcanic belt of the continent, extending from Arizona and Southern California northward to the Arctic regions. The original bedding of the secondary rocks has been subjected to greater disturbances, more extensive upheavals, and a greater variety of breaks and displacements, than can be found in any other portion of North America. Hence the mining districts are like islands in an ocean, without any well defined counection or system of continuance, as in California, or in the Appalachian chain in the Atlantic States. In many other respects this portion of the continent presents unusual features, such as the presentation of the Silurian rocks in isolated patches here and there in the southern and eastern portions of Nevada, with some members of the later periods in contact, showing that the rocks of the intermediate periods are not represented, suggesting the supposition that the older rocks were above the ocean level during those intermediate eras of time.

At Silver Peak the Tertiary rocks and clay-beds lie upon the older Silurian, without any representative of the intermediate periods; while at Volcano, New Pass and Humboldt districts, lying from 60 to 150 miles to the northwest, the Triassic and Jurassic rocks are well represeuted, with scarcly a trace of other geological series. In the Ione or Union districts, skirting the western line of Nye county, some of the carboniferous slates and limestones are found with the Triassic rocks in limited quantities, generally overlying porphyry, greenstone and granite, or else presenting themselves in upheaved and contorted atrata, along the sides and foot-hills of the granite and porphyry ranges.

White Pine District is almost exclusively in limestone of the Silurian age. The thickness of the lime strata cannot he determined closely, for the reason that the upheaval and displacement has not brought to light the underlying rocks. Sufficient displacement has occurred, however, to expose a thickness of abont 800 feet of limestone, in beds or strata varying in thickness from six inches to twenty feet each. The greater mass of the lime rock has been so much changed by chemical agencies, that the fossils have, in a measure, disappeared, leaving only obscure outlines on the weathered surface. Excepting in the upper strata next to the overlying slates, three or four species of coralines and a few small bivalves represent the auimal life of the period in which the limestones were formed. These shales or slates are all more or less bituminous, and in those places where they are not much broken or exposed to weathering, they contain enough hydrocarbon to burn with a bright flame when heated, until the inflammable gas is consumed. We thus see the carhoniferous rocks overlying and in contact with those of the Silurian age.

MECHANICAL DISPLACEMENTS.

It is unnecessary in this connection to discuss the causes that have produced the breaks in the original bedding of the secondary rocks, for the reason that there are too many theories conuected with this subject, and to many diverse opinions to be considered, that have no practical bearing upon the nature and extent of the ore deposits. Therefore in utilitarian sense, it does not matter whether the upheaval of one portion and the corresponding depression of other portions of the metal-bearing rocks, was produced by volcanic disturbances, earthquake convulsions, or by the corrugation of the outer crust of the globe from the general shrinkage of the interior mass. It is quite probable that the latter proposition—"the general shrinkage of the globe from loss of heat"—has been the cause—either directly or remotely—of all the volcanic and earthquake phenomena of ancient and modern times—such phenomena being the result simply of the operation of a universeal law.

THE METAL-BEARING STRATA.

The ore deposits are in what are called "coraline limestone," from the fact that coralines and a sea plant called the "Algae" are the fossils found imbedded in the silver bearing strata. Next above the silver bearing limestone is a bed of dark brown and pinkish-colored slate, with alternating strata of limestone of a later period, containing large numbers of "Encrinites," and a few "mollnsks."

This last described stratum of alate and limestone is not metal bearing, and ia tound only on a few isolated benches on the higher portions of the north end of Treasure Hill, and along the eastern base, extending in a curved line from the town of Hamilton, along the line of Applegarth Cañon, and in the southern foot-hills, south and east of the California mine.

TOPOGRAPHY AND STRATIGRAPHY OF TREASURE HILL.

The longitudinal axis of Treasnre Hill is in a line nearly north and south, and from Hamilton at the extreme north to the junction of Applegarth and Shermantown Cañons at the extreme south, the distance is about six miles. A line from east to west, through the widest part of the hill cutting to the South Aurora Mine, will measnre about two miles. The high crest of the hill is about one mile long, north and south, and averages abont 1,200 feet in altitude ahôve its base. This high crest forms an irregular sloping bench, highest along the east side, and sloping irregularly westward.

For convenience, we will call this the upper plateau of Treasure Hill. It includes Pogonip, Chloride and Bromide Flats skirting its western slope, and the celebrated Aurora, Hidden Treasnre, and other important mines along the higher and more easterly portions, near the summit of the ridge. The eastern edge of this plateau is very ahrupt and precipitous, and appears to be the great line of disruption or displacement of the limestone strata. From this line of fracture the limestone dips westerly at an angle varying from ten to twenty degrees.

The east side of the hill presents bold cliffs, showing the east edges of the lime strata for several hundred feet down the hill. At the foot of these cliffs the strata corresponding with that on the "Upper Plateau" is found dipping to the east under Applegarth Cañon.

EAST AND WEST FISSURES.

At the south end of the "Upper Platean" there is a great tranverse fissure, extending entirely through the mountain, in an irregular line from east to west. This I will call the "Eberhardt Fissure," from the fact that the great Eberhardt deposit is in the central portion of this line of displacement. South of this break the lime strata dip generally in a southerly direction until they disappear under the debris of the foot-hills.

These are the two most prominent and well marked lines of displacement in the hill, and are a key to all the others, since nearly all the other lines of fracture and displacement connect immediately or remotely with them.

South of the Eberhardt fissure the hill is broken into a number of divisions by well marked lines of fracture and displacement, the greater number running in a south and southeasterly direction, and are now marked by the ravines and cañons that have formed along their lines. (I will here remark that every ravine and cañon in this district is formed in a line of fracture in the country rock for at least the greater part of its length.)

The distribution of fractures south of the Eberhardt fissure cuts the southern part of the mountain into a series of irregular ridges, varying in their direction from south to southeast.

Across these ridges there are a few fissures nearly parallel with the Eberhardt, and presenting, to some extent, the same general features. The California mine approaches nearer in structure and general character to the Eberhardt than any yet found in the district; with this difference, however,—the south wall of the California has been in the line of displacement, is smooth and well marked, whilst at the Eberhardt the north wall has been the line of movement, and is equally smooth and well marked. This difference is merely mechanical and does not affect the general similarity of the two mines. The Eberhardt and California mines are not only in lines of fissures east and west, but are also lines of vertical displacement of the strata. The Irvine mine is in a vertical fissure, nearly east and west, in which no material displacement of the strata or bedding of the limestone has occurred. Other fissures of the latter type are to be seen in Treasure Hill and other portions of the district.

LIMESTONE BRECCIA.

The system of east and west fissures above described constitutes one of the well marked features of the district, and for convenience I will call it the "east and west system."

The peculiar features of this system are that they are filled, first, by broken fragments of limestone, of all shapes and sizes, from minute fragments to enormous boulders, occupying the entire space between the walls, thus forming a "breccia" of limestone, in the interstices of which, the quartz, spar, and ore, have snbsequently been deposited from solutions containing those minerals and metals in their various combinations.

VEIN CHEMISTRY—"TRUE" FISSURES.

In many places the "solfataric action" has been so intense as to dissolve the lime and deposit silica in its place, thus changing the small fragments of limestone into quartz, and in some instances leaving the form of the fossils as perfect in the quartz aa they were in the original limestone. Nearly all the quartz associated with the ores of this district has been formed in this manner, and, hence, is silicified limeatone, changed by the same process that in other localities has changed wood into silica, by dissolving the wood and depositing silica in its place, retaining in that case the structure of the grain of the wood. In the transformation of the limestone here the forms of the fossils are equally well preserved. Hence, the the vein matter filling the true fissures of this district is so different from that observed in other parts of the world that mining experts have generally asserted that "there are no true fissure veins here." I think otherwise; but, as that depends somewhat upon what a "true fissure vein" is defined to be, I will leave it for future discussion.

THE HORIZONTAL DEPOSITS.

The next class of ore deposits is those lying with or between the bedding of the limestone, in irregular masses or bunches, of all sizes and shapes, from a few pounds to hundreds of tons. These deposits are in no sense true veins, but are intercalated masses of ore in and between the limestone strata. Chloride Flat is a complete representative of this type of deposits. The chemical reactions, however, have been the same during the formation of these "ore beds" as that described in connection with the filling of the true fissures.

NORTH AND SOUTH ORE CHANNELS—GENERAL LINES OF BREAKAGE.

A third class of ore deposits is also well marked throughout the district, that partakes largely of the character of both those above described. They are neither "true fissures" nor "intercalated deposits," but are mainly on lines of break, running north and south through the central portions of the district, in which no material displacement or faulting of the strata has occurred. The limestone appears to have been crushed and broken into fragments to unknown depths, and in some places to great width. The finest example of this class is the Aurora Mine, near the summit of Treasure Hill, opposite and east of Chloride Flat. The crushed or broken limestone has become a great mass of silver ore by the same process as that already described, viz: chemical changes, induced by the ascent of heated vapors and gases through the rents and breaks of the outer crust. This action also spread laterally into and through those strata that were most permeable and soluble; thus changing the limestones, in those places where the mechanical and chemical action could operate under the most favorable conditions, into quartz, spar and ore, as we now find it.

The Mahogany series of claims, including the Blair and Banner, are all located on a great deposit of ore belonging to the class of mines of which the Aurora is the representative. This body of ore lies in a basin, along the upper part of Mahogany Cañon, and is traceable about 1,000 feet in length by from 100 to 200 feet in width, and judging from the character of the vertical breaks, there is every probability of its continuance to great depth. I do not wish to to be understood to say that the whole area of 1,000 feet north and south by 200 feet wide is all one continuous mass of ore, but that it is a mass of broken limestone, with large deposits of ore ramifying it, in the same way that it is seen in the Aurora and other mines of the same class. It is, properly speaking, all one great mine or deposit of ore found in a general line of breakage of the lime-strata. The bedding of the limestone along this line of break does not appear to be displaced or faulted, but is depressed along the central line of break—and hence the dip of the strata on each side of the break is towards the central line, occupied by the bottom of the

ravine or cañon, forming a trough like a flat V.

The superficial character of the explorations along this "ore channel" can only give a general idea of its extent and value. But it is sufficiently well marked to make it one of the most promising localities in the district, and unless my generalizations are very wide of the truth, it *ought* to be one of the most extensive and valuable mines in this famous and anomalous country.

LOW GRADE AND QUANTITY.

This class of ore deposits appears to be the most extensive and reliable for quantity. The ore is lower grade than either of the other classes of mines described, but there is more of it in one body, consequently involving a less amount of dead work to get it out, and making the permanent improvements incident to large mining operations more valuable from their useful continuance through a longer period of time.

Large deposits of low grade or medium class ores *are always more reliable for continual and remunerative results* than small veins of very rich ore.

The only safe rule in any mining enterprise is to base the estimates upon the average value of the low grade ore, for they comprise the great bulk of all important mines, and if the plan of operations is so arranged as to work the poor ores with profit, there is no danger of the rich deposits marring the success of the enterprise.

BASE METAL RANGE.

The foregoing description of mines is confined to that portion of White Pine district occupied by Treasure Hill and its outlying spurs and foot-hills. The White Pine mountain proper lies west of Treasure Hill, and is separated from it by Silver Cañon. The "Base Metal Range," as it is called here, extends through White Pine mountain from north to south, a distance of six or eight miles, and numerous locations are made on both the east and west flanks of the range. A belt of the base ores is also found along the west base of Treasure Hill range, near the line of Silver Cañon.

Owing to the great amount of snow covering the range, I have not been able to make a satisfactory examination of the mines or the geological structure of the country rock. The ores contain lead, copper, antimony and silver, and are classed as "smelting ores."

As soon as the snows and my numerous engagements permit, I will give such facts to the public, through your valuable journal, in relation to the Base Metal Range of White Pine, as may appear to be of general interest.

Treasure City, April 28th, 1869.

GOVERNMENT EXPLORING AND SCIENTIFIC REPORTS.—The Pacific Railroad Reports are now held at a high price, a complete set for sale in this city being offered at $100—consisting of 13 volumes, which includes a few volumes of naval exploring expeditions. Many of these scientific reports are necessarily superficial, and even incorrect, owing to the hasty manner in which our great interior had to be reconnoitred; but they are all we possess in regard to sections of country that we see at the present time rising out of the ocean of the unknown and undeveloped past, into islands, promontories, headlands and aggregating continents of civilization. To the intelligent and scientific reader the materials are, in this shape, presented for a very fair appreciation of the resources of the great West. With Whitney's available California notes, the Ross Browne and Raymond contributions, and the newly operating King Pacific Railroad geological reports, Blake's Paris Exposition reports, Stretch, Sutro, White, Laur, Hayden, etc., we shall not lack for information of the official sort. In regard to the King survey, the first volumes of which are now in press at Washington, we see it reported that an additional appropriation of $120,000, has been made by Congress; which is probably intended to complete it, the originally intended duration having been but three years. It is under the auspices of General Humphreys, of the United States Engineer Corps.

FIRST OVERLAND FREIGHT.—Macondray & Co., of this city, sent an invoice of tea to a St. Louis house by the first overland freight train.

Stock Review.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

SAN FRANCISCO, May 15, 1869.

City Stocks.

City stocks, as a general thing, are in better request, showing an increased amount of sales during the period under review. Insurance stocks have not been offered very freely of late, and upon the whole the inquiry for this class of securities is not urgent. Very considerable sales of San Francisco Gas Co. stock have been made at $81@82 50. This improvement is principally due to the withdrawal of the City Gas Company, recently incorporated, consequent upon the renewal for a term of years, by the Board of Supervisors with the San Francisco Gas Co., of the contract to supply the city with gas. Spring Valley Water Co. stock sold at $66 50@66 25 per share. The annual meeting of stockholders will be held on Saturday, June 19th. A few shares of California Steam Navigation Co. realized 65 per cent. The annual meeting of this company will take place on Monday, the 24th instant. The Omnibus Railroad Company will disburse its annual monthly dividend to-day. The Bank of Stockton disburses a dividend of 1 per cent. for the month of April. The Board of Directors of the California Insurance Co. have called a special meeting of the stockholders, to be held on the 16th of June next, for the purpose of considering the following propositions: to increase the capital stock from $200,000 to $300,000, and to change the value of shares from 200 at $1,000 each to 300 at $1,000 each. The California Steam Navigation Co. will disburse a dividend of 1 per cent. for the month of April to-day.

The Bank of California disburses its usual monthly dividend to-day.

Mining Share Market.

The result of the week's transactions in the stock market showa a pretty large amount of business distributed among a more than usual number of companies comprising the list of the Board, and in the main showing a very healthy advance in prices. The Nevada mines in general have received a very marked impetus through the various railroads, both completed and in prospective, and by these conveniences the mines acquire additional value, independent of their intrinsic merits as regards the production of bullion. With regard to the Gold Hill mines we notice a material improvement in prices. A dispatch of the 13th says: "The shafts of the Crown Point and Kentuck still remain closed; but there are no indications of fire, and it is hoped it is extinguished. The Crown Point is putting in new cylinders to their hoisting works, and the Kentuck Company are putting on new cables, preparatory to commencing work in a few days."

ALPHA—improved from $32 50 to $39 50, closing at $35 50. On the 11th inst. the cross-cut on the 1030 level had been carried a distance of 21 feet, showing porphyry with quartz seams in all directions. A boulder, weighing some five hundred pounds and containing some pay quartz, was encountered, but no other quartz of a similar character has yet been found. The drift will have to be run some 30 or 40 feet more before they will reach the east clay. On the 930 level the ore streak is reported to be looking better, being three feet wide and showing an average assay of $61 per ton.

BELCHER—advanced from $18 50 to $23, and closed at $22 50. A bullion product of $8,280 25 from 357 tons, equal to $23 18 per ton, is reported for the month of April.....CHOLLAR-POTOSI sold to a moderate amount within a range of $238@252 50, and closed at $255. During the week ending May 7th 1,240 tons of ore were extracted, and 1,269 were sent to the mills during the same period. The Blue Wing stope is reported to look quite as promising as it did a week ago, and the western portion is improving as the work is carried up. A drift from Potosi tunnel level will be run west to intersect the new tunnel body, giving a depth of 200 feet to that deposit. The new tunnel stope is not looking as well as formerly. The bullion returns for the month of April aggregate $122,592 76, against $110,392 in March.

GOULD & CURRY—sold to a considerable extent at $111 @120, closing at $121. This company will soon run a prospecting tunnel into the croppings west to the El Dorado cross, which will be about 400 feet long. The shaft is being thoroughly repaired at the bottom, and we understand that at an early day they will ent out a station and commence drifting.....HALE & NORCROSS—sold at $175@200, closing at $180. During the week ending May 8th 757½ tons of ore were extracted, showing an assay value of $47,309 53, that from the fifth level showing an average of nearly $100 per ton. In the same time they delivered 1,005 tons of ore to the mills, leaving on hand 923 tons. The fifth station continues to look exceedingly well, the ore showing a width of 31 feet, and is widening as they are going down on it....IMPERIAL—has improved considerably. On the 13th inst. $2,590 in bullion was sent forward from the Gold Hill mill. Finding nothing but barren quartz and porphyry in their lowest levels in the Imperial-Empire shaft, it has been decided to commence immediately to carry the shaft to a greater depth.

SAVAGE—fluctuated considerably under large sales. The yield of bullion for the month of April aggregates $173,900, against $173,817 in March.....GOLD HILL QUARTZ yielded $4,969 in bullion during April, against $5,676 in March. An assessment of $20 per share was levied on the 13th inst.

In reference to the White Pine mining district we clip the following from a correspondent of the *Bulletin*, of this city: "Treasure City and district are rapidly improving in all things which look toward permanency. The six-horse coaches now arrive and depart from here, and the toll roads are completed to here from Hamilton and Shermantown. Three new water carts made their appearance on our streets this week with spring water, and the price is reduced to eight cents per gallon. One was a large tank, drawn by six horses. Prior to the introduction of these we were dependent on snow water. The warm weather scattered this article, and only left a few banks on the north side of the hills and bluffs. A number of prospectors who, I suppose, had been unsuccessful in finding chloride, changed their base of operations and located the snow banks, with all their dips and angles, and threw up a snow wall around them. One of these snow locations sold last week for $600 gold coin. The lucky purchaser is melting it down and selling it for two bits a bucket. He has already realized the sum paid, and has quite a fort left. Wood has fallen from $20 to $15; barley from $30 a hundred to $10; flour from $16 to $8; potatoes from $40 to $6 per hundred pounds; eggs from $2 per dozen to 50 cents, and other provisions in about the same ratio. Freight is reduced from 20 cents from Elko to 6 cents. Lumber has tumbled from $400 to $200 per M, and is still on the decline. Over twenty new stores have been opened since my last letter. Each new one is enabled to sell at a lower rate than his neighbors, which compels the old houses to come down, at a great sacrifice on many articles.

"Information has been received here from reliable authority that correspondents of a few shaky papers have been employed and sent here by parties interested in other districts to write down the mines and resources of this district, but it will have only a temporary effect. The richest and most extensive mines of the world are here. They are easily worked. The ore is easily reduced, and the process of reduction is simple and cheap. This district is now producing, with only 33 stamps in active operation, $500,000 a month in bullion. I have heard an estimate made by more than twenty experienced miners and old men, that there are over 30,000 tons of ore lying on dumps and stored away on and around Treasure Hill alone, which will average $100 per ton. This will yield $3,000,000 as soon as we have mills to reduce it. When you consider that the weather has been too severe for men to work more than half their time, and ill provided against the snows and storms, with a small number of laborers who were content to work for day's wages, the product of silver is almost nothing in comparison with what it will be this summer and fall, when the weather is pleasant, mills sufficient to crush the ore, labor abundant and cheap, and supplies reasonable in price. No mining district in the world possesses so many natural advantages as White Pine. The mines can be worked to a depth of a thousand feet without striking water. Wood will not exceed $4 per cord for the next five years. The ore can be extracted from the mines, hauled to the mills and crushed for $15 per ton so soon as mills are plenty and the business of the district is settled upon an economical basis. It seems incredible that man's self-interest would carry him so far as to malign the facts and resources of a new district, while the rich developments stare him in the face. Croakers may howl, other districts may writhe over their declining fortunes and depopulating towns, bought brains may conjure up false reports and send them forth to the world, they cannot change the silver mountains of White Pine. Though base their accounts, and dark their deeds, yet pure and bright will remain the silver stream which will flow like the torrents of a flood over the world. White Pioners read with indifference their letters and laugh at their misrepresentations. It is like the nibbling of a sandfly at the back of an elephant—it may draw a drop of blood to satisfy its satiated appetite, but the ponderous animal moves on, unmindful of its infinitesimal rider."

EBERHARDT MINE.—The name of this mine, says the *Inland Empire* of the 6th, has become familiar to every one in this district. It is not our intention to give a history of its discovery, nor to pass any eulogy upon it; but to give a plain statement of what we saw and what conclusions we arrived at from a careful inspection of the mine. On Monday last, while musing the rounds of life in Virginia at Treasure Hill, we called at the Eberhardt and introduced ourself to Mr. Bicknell, the Superintendent, who kindly extended to us an invitation to go down into the mine, which was accepted. We were soon afterward at the first level of the mine. At this point the most of the ore which has been taken from the Eberhardt proper has come yet, in but one single place has it been opened larger than one floor with six-foot posts. At one point a space of ground of some ten feet square was excavated below the floor to a depth of ten feet. On the south side of the opening below the ore has been taken away from the south wall, leaving the wall perfectly defined and as smooth as any wall we ever saw in the Comstock. The wall rock is pure limestone, without a particle of quartz or spar in it, and almost perfectly solid. Next to the wall is a stratum of quartz a foot thick, which is ground almost as fine as though it had been subjected to the stamps of a mill. Joined on to this is the rich chloride ore, of which none is being worked. The ore being reduced at this time is what is termed the black ore. Although it has not a favorable appearance to the inexperienced eye, yet it yields about $6,000 per ton by mill process. The ord in the mine seems to be divided into two classes—the black quartz and the chloride. In both kinds large boulders of barren rock, similar to the cap rock found over nearly all the ledges, are met with. We do not propose to give any kind of an idea of the richness of the chloride stratum, for we know it would prove a failure; and if we did succeed, our readers would think we were excited, if nothing more. But we should say there is now exposed to the eye at least three million dollars worth of ore. In some places there is "horn" silver two inches thick. Some ore was broken up from the floor of this station which was a perfect mass of "horn" silver. We were made the recipient of a piece of it weighing a little over a pound, which is worth $10 25. It is perfectly malleable. Although we have been through every level from the sage brush to 1,000-feet station of all the mines on the Comstock, and have seen them in their glory, yet we have never seen anything that would do to compare to this great mine. The rock wall is perfect, and is as true as the wall of a plastered room. Near the north wall a tunnel has been run west under the road a distance of two hundred feet, and the whole distance was through ore of a very high grade. The ledge of pay ore, or ore that will mill from $600 to $18,000 per ton, is 183 feet wide, and how deep it will extend no one can tell. We saw some good ore from the shaft at a depth of 184 feet, although the shaft is in the edge of the south wall; but as soon as a drift is started across the ledge we may look for ore equally as good as that found on the first level.

PLUMBAGO CRUCIBLES.—A very large assortment of plumbago crucibles, from the size of an assaying crucible to that of a small cupola furnace, may be seen at the store of A. S. Hallidie & Co., No. 519 Front street. They are what is known as the Morgan pateut, manufactured at Battersea, London, and are said to last longer than any others made. The Dixou crucibles, manufactured in New Jersey, aud the Morgan, together, mainly supply this field. The average durability of the Morgan crucihle for gold, silver, copper, and other ordinary metals, is forty to fifty pourings, in some cases reaching one hundred. For zinc they last longer than iron pots, and save the great loss which arises from mixture with iron. Those for maleable cast iron show an average working of seven days. The plumbago crucible is a most important article in modern metallurgy and metal working,—everything cast in a small way being now done with it as the most economical article to be had.

Weekly Shareholders' Directory, for Meetings, Assessments and Dividends.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Amador Co., div. $10 per share	Payable May 5, 1869	
Adriadic, Storey co., April 20, $1	May 2	June 7
Alpha Cons., Storey co., Nev., div. $2	Pay. June 19, 1868	
Accidental, White Pine, March 30, 25c	April 30	May 30
Belcher, Storey co., Nev., May 4, $5	June 5	June 24
Bowdoin, White Pine, April 14, 5c	May 29	June 14*
Besom, Storey co., Nev., div.	Payable June 19, 1868	
Bullion, Storey co. Nev., March 23	Payable immediately	
Cons. Virginia, White Pine, April 14, $1 50	May 19	June 5
Coney, preferred Stock, div. 1½ per cent	May 10, 1869	
Confidence, Storey co., Nev., May 4, $10	June 9	June 30
Cherokee Flat, Butte co., May 1, $5	June 3	June 21
Capital, White Pine, April 19, 10c	May 17	May 31*
Catalina Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12, 1868	
Douglas, White Pine, May 6, 12½c	June 8	June 21*
Dios Padre, Mexico, April 29, $1	May 31	June 21*
Eureka, div. $10	Payable May 10, 1869	
Etna	Annual Meeting May 17	
Edith	Annual Meeting May 17	
Eberhardt M., Nev., dividend $6	Payable May 15, 1867	
El Tasic, Sonora, March 22, 50c	April 25	May 17
French, White Pine, May 4, 5c	June 7	June 28*
Fogus, Amador co., April 23, $5	May 29	June 18
Gold Hill Q., Storey co., May 13, $20	June 18	July 9
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Chariot, Idaho, div. $2.50	Payable March 20, 1869	
Golden Rule, Tuolumne co., div. 50c ₱ sh	Pay. April 7, 1869	
Hale & Norcross, div. $6	May 10, 1869	
Hope Gravel, Nevada co., April 6, $1	May 10	May 31
Ion, White Pine	Annual Meeting May 18	
Imperial, Storey co., Nev., div.	Payable June 20, 1868	
Keystone, Sierra co., div., $32	Payable May 6, 1869	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Lexington, White Pine, April 28, 25c	June 3	June 23
Lettia & Poole, White Pine, April 23, 20c	May 31	June 24
Marlborough, White Pine, May 4, 6c	June 7	June 28*
Mocking Bird, White Pine, April 15, 10c	May 29	June 7
Nuestra Senora de Guadalupe, May 12, $2	Incl. June 16*	
North Star, dividend, $5	Payable Aug. 15, 1868	
Oneida	Annual Meeting May 18	
Occidental, div. $2	Payable March 2, 1869	
Phœnix	Annual Meeting May 25	
Phœnix, White Pine, April 27, 25c	May 27	June 26
Pacific Unassessable, div.	Payable June 18, 1868	
Pacific, Coal, Contra Costa co., Mar. 20, $4	Ap. 27	May 17*
Quail Hill, Calaveras co., April 2, $10	May 11	May 31
Rising Star	Annual Meeting May 17	
Rathbun, White Pine, April 19, $1	May 25	June 14
Savage, Virginia, Nev., dividend, $1	Payable May 11, 1869	
Sand Springs Salt, Virginia, div., $1	Payable May 5, 1869	
Santa Rosa, Ventura	Annual Meeting May 20	
Siempre Viva, Mex., April 15, $1	May 21	June 7*
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1	Payable Jan 5, 1869	
Senator, Storey co., Nev., March 25, 50c	May 1	May 28*
Silver Spray, Inyo co., March 25, 50c	May 1	May 28*
Troy Ledge, White Pine, March 16, 15c	April 23	May 24*
White Pine Water, Lander co., April 14, $30	May 22	June 19
Williamsaule, White Pine	Annual Meeting May 18*	
Virginia Cons., Storey co., April 14, $1.50	May 19	June 5
Virginia & G. H. Water Co.	Dividend, payable April 16, 1869	
Yellow Jacket, div., $5	Payable March 15, 1869	

Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD

FRIDAY EVENING, May 14, 1869.

	Bid.	*Asked.*
MISCELLANEOUS STOCKS.		
United States Bonds, 5 20s, 1855, '67, '68	$ 81	82
United States Bonds, 5 20s, 1864	—	—
United States Bonds, 5 20s, 1862	—	—
Legal Tender Notes	73	73¼
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s	83	87½
San Francisco School Bonds, 10s, 1866	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1866	—	90
San Francisco City and Co. Bonds, 7s, 1862	—	90
San Francisco City and Co. Bonds, 7s, 1864	—	90
San Francisco City and Co. Bonds, 7s, 1865	—	90
San Francisco City and Co. Judg. Bds. 7s, 1863	—	90
San Francisco City and Co. Judg. Bds, 7s, 1864	—	90
Sacramento City Bonds	20	—
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	30
Stockton City Bonds	65	—
Yuba County Bonds, 8s	80	85
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	64	65
Spring Valley Water Co	66¼	66½
State Telegraph Co	20	—
GAS COMPANIES.		
San Francisco Gas Co	—	—
Sacramento Gas Co	52	53
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	121½	—
Central Railroad	70	—
North Beach and Mission Railroad	70	—
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97¾	100
The Bank of California	157	160
INSURANCE COMPANIES.		
Spike's Insurance Company	100	—
Firemans' Fund Insurance Co	98	100
Pacific Insurance Co	122	123
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	98	100
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	85	90
MINING STOCKS—WASHOE DISTRICT.		
Alpha	29	39¼
Baltimore American	—	—
Belcher	22	23
Bullion, G. H.	—	27
Crown Point	71	71½
Cole (Va.)	—	10
Confidence	37	40
Consolidated Virginia	8	10
Chollar-Potosi	254	265
Daney	3½	4
Exchequer	16	18
Empire Mill and Mining Co	75	80
Gould & Curry	120	121
Gold Hill Quartz	25	30
Hale & Norcross	180	190
Imperial	100	101
Julia	2½	4
Justice and Independent	8	8½
Kentuck	265	266
Lady Bryan	14	14½
American	59	60
Occidental	—	25
Ophir	25	26
Overman	86	87
Segregated Belcher	10	10½
Savage	117	117½
Sierra Nevada	75	—
Yellow Jacket	77	77½
MISCELLANEOUS MINING STOCKS.		
Amador (California)	260	265
Aurora, White Pine	—	18
Eureka, (California)	225	235
Golden Chariot (Idaho)	35	40
Silver Cord (Idaho)	10	11
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocotillo, White Pine	10	—

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

The Michigan.—*Chronicle*, May 1st: This tunnel is now in 245 feet, and running through easy rock. It is thought that 100 feet further will carry it to the Tarshish.

Arrived.—M. Schwerin, Agent of the Schenectady, (Tarshish), arrived on Monday. Mr. Graff, who formerly had charge of the work, has been sent for to act in the capacity of Mining Engineer, and in the mean time, commencing at once, the mine will be put in order and explorations continued.

Morning Star.—*Miner*, May 1st: The work at this mine is now penetrating beneath a body of ore preparatory to stoping out. The Co's affairs are said to be in a somewhat mixed state at present.

Monitor Consolidated Co.—The Mill is now all ready to commence grinding quartz, and it is thought the flume will be finished during the coming week.

The Globe.—The tunnel was pushed in 12 feet last week and is working well. Mr. J. Winchester, the president, is expected from New York.

AMADOR COUNTY.

Summit Mine.—*Ledger*, May 8th: Sinking and propecting is still going on. One hundred and fifty tons of rock were crushed a few days ago and the yield was $30 per ton.

The Amador Mine, at Sutter Creek, is at her old tricks again. For the month of March the yield of gold was $61,000, while that for the month of April was $66,000.

The Wolverine.—This mine is the first north of the Eureka. The owners lately struck a body of very good rock.

R. C. Downs, of Sutter Creek, has struck a large vein of quartz on the north extension of the old Union mine. The lode is about ten feet wide, and the rock of good quality.

CALAVERAS COUNTY.

The Palomo.—*Chronicle*, May 8th: The steam hoisting works are nearly completed. When they are ready to commence operations, the mine will be well supplied with machinery.

Petticoat.—This mine is entirely free of water and the main shaft is being sunk as rapidly as possible. No more levels will be run until the depth of 100 feet is reached below the old level.

Alexander & Co. still pursue the even tenor of their way. The clatter of their batteries ceases not, day or night.

INYO COUNTY.

Cerro Gordo.—April 25th: A correspondent of the *Alta* says, one of the richest discoveries ever made took place on the 22d. Mr. Elder, of the firm of Belshaw & Elder, discovered a piece of float, which he assayed, and it went over $10,000. The whole town turned out to look for the lead; next day it was found. The lucky individuals are General Heffernan, J. Simpson and Charles Hoffman. Robert Cushing, of San Francisco, is located in the ledge. It is called the General Rathbone ledge, and assays over $12,800 per ton. No ore is worked here that pays less than $200 per ton. We are greatly in need of capital and good miners.

Freiburg.—Same of 24th: A correspondent of the *Times*, says: Since opening, last September, there has been extracted about 987 tons, which assays from $100 to $300 per ton in silver, with an average force of three men, with no other assistance than pick, shovel, wheelbarrow and blast.

Alpha.—They have run a tunnel with the same force as that employed on the Freiburg, 200 feet, and had to stop by reason of scarcity of timber. Their prospects are flattering.

LASSEN COUNTY.

From the *Sage Brush*: We understand that a mining company, from Cherokee Flat, have recorded several locations on Susan River, twelve miles from this town. We have been informed that there are extensive gravel diggings, which prospect fairly.

Again in Operation.—*Gazette*, May 7th: The steam pump on the Mariposa Co's vein below town was again put in operation on Monday morning last. It suspended operations about two months ago on account of the supply of wood giving out, the roads being in such condition none could be hauled.

Hunter's Valley.—*Mail*, April 7th: The Oakes & Reese mine cleaned up on April 1st, [illegible] run of 27 days, $12,000; expenses, $7 [illegible] including some [illegible] ments. It is said the vein increases in richness the further down they go.

NEVADA COUNTY.

Clean Up.—Grass Valley *Union*, May 3d: The last clean up at Frank Morse's mill yielded over $1,900, exclusive of the sulphurets. This was the result of ten days' run with eight stamps. The mine is looking better than ever; some of the rock now being taken out will run $75 to the ton.

Wm. Penn.—5th: Work on the ledge is progressing favorably. The extensions east and west have been traced and located.

The Idaho last Monday declared a dividend of $15,500.

Allison Ranch.—The pumping is going ahead in a satisfactory manner, and the old dump is paying for the labor. The water has been lowered 130 feet.

Hope Gravel.—The company have some sixty feet yet to sink to gravel. The workmen are in pipe clay, and have some difficulty with water, which will be remedied as soon as the large pumps can be put to work.

The North Star continues to have good rock both in the east and west drifts. The west drift rock is very rich. The company will make a splendid clean up.

Union Hill.—6th: The amount of gold taken out for the month was something over $8,000. This does not include the sulphurets. The total expense of the mine and mill for that time was less than $6,000. The ledge is looking well and is over three feet thick in the east drift, and about two feet in the west.

Scandinavian.—*Gazette*, May 4th: The owners of this mine are working it by two arastras, run by water-power. A few days since they cleaned up, after a ten days' run, and took out $400.

The Monitor.—5th: This is an old location, near Guscetti's ranch. Its present owners, Cashin, Ott, Colley and others, have commenced sinking on the old incline, now down about 35 feet. They have pumping and hoisting machinery driven by water. Rock from this mine, several years ago, yielded $68 a ton.

Scotch Flat.—The claims of the Bean Co. were cleaned up on Saturday after a run of ten days, and yielded over $400. This was the first clean up this season.

Good Rock.—Alex. Young & Co. have struck a quartz ledge near the Havens Ranch, two miles east of Grass Valley. They have sunk an incline 30 feet, the ledge being of good size, the rock showing free gold and rich sulphurets.

Scandinavian.—7th: This company have levied an assessment of $5 per share on the capital stock, for building a 5-stamp mill.

Small Oaks Mine.—This claim is near the Ione, on the Colfax road, and consists of 950 feet. It is an extension of the John Bright, from which rock now pays $30 per ton. They have driven a tunnel over 300 feet into the ledge, which looks well, and is from eight inches to a foot in thickness.

Miners' League.—*Transcript*, 8th: The miners of Grass Valley and vicinity, opposed to Giant Powder, on the ground of injury to health, propose to form a miners' league, and at an informal meeting elected Capt. Faull, Correspondent, and Frederick Mason, Secretary.

Sweetland.—9th: The claims of Stidger, Evans & Co. are paying big. The company own acres of ground, and it will take many years to work it out....A Chinese Company of San Francisco have recently bought the claims of John Taylor.

PLACER COUNTY.

Heavy Clean Up.—Auburn *Herald*, May 8th: Heenan, Lowry, Taylor, Quick & Co., located a quartz claim on Rock Creek, three miles from here, and named it the Evening Star. Some days ago they had 13 tons of rock crushed, which cleaned up $3,333.18 in gold—an average of $256 per ton. There has been very rich surface diggings in this Rock Creek District, which have been and are still being worked.

Black Lead.—We learn that the boys have again commenced work. About a year ago this claim was reputed as being one of the richest in this section, but the pay streak pinched out.

Stars and Stripes, May 6th: Some very fine gold-bearing quartz has been taken from a ledge on the Bloomer Ranch.

PLUMAS COUNTY.

Morristown Union.—La Porte *Union:* We are informed that work is going on finely. One company made a small clean up last week.

Port Wine.—The Monte Christo cleaned up $3,580 last week, paid all back wages, and declared a dividend. The Union Co. also made a clean up of $2,500.

Nelson.—Fell & Co. are still at work on the bench above the bridge, and getting good pay. Several Chinese companies are at work in this vicinity.

[illegible] at Saw Pit have plenty o water, and all of the claims are paying. The Buckeye Co. have struck rick gravel near the Monitor. The American on Washington Hill has worked out all the ground they can through the tunnel, but men will be kept at work running a new tunnel to tap their upper ground, which is known to be very rich.

Quincy.—Barker and Wilhur have consolidated their claims on Mill Creek, and are taking out big pay. Swan has commenced cleaning up with good prospects. Mr. Dodge has purchased an interest in the Bull claims on the creek below the New England ranch. Haun has commenced work in the Ellis tunnel at the mouth of Arkansas. Hersey has struck a good streak on Hungarian. The boys on Clearmont think the indications for their striking the lead soon are excellent. The Black Hawkers are making the best use of their time and water, as the season will be a short one; the same may be said of the Hungarian and Spanish Ranch miners. Goodwin has sold out his claims at Elizabethtown, and Loring and Cummings are working them and getting good pay. J. W. Deuslar is having his Argentine claims worked.

SIERRA COUNTY.

Good Clean Up.—Downieville *Messenger*, May 8th: We understand that the recent clean up at the Keystone mill, owned by H. Scammon & Co., yielded over $16,000. This is said to be the best run ever made by this mill.

SISKIYOU COUNTY.

Quartz.—Yreka *Union*, May 8th: Mr. H. T. Shepard showed us some fine specimens of gold-bearing quartz, from a ledge in the vicinity of Oro Fino. The ledge is a foot in thickness at the surface.

TRINITY COUNTY.

Weaver Creek.—*Journal*, May 8th: The flume is progressing. A check dam has been put in 250 yards above the head of the flume, to hold the tailings while the creek is being sluiced below. It is the intention to put in sixty more boxes this summer.

Pony Creek.—Keach & Mason have taken a good deal of money out of their claims on Pony Creek, this winter. Keach lately bought out Mason and now owns the whole. One-fourth interest in the Portuguese claim on the same creek was recently sold for $600.

ARIZONA.

Bully Bueno.—Prescott *Miner*, April 17th: Mr. Vickroy has not been successful in his efforts to instill new life into the Philadelphia owners, and it may be a long time before anything is done with their property in Turkey Creek district.

Sterling.—A cut across the vein has disclosed an almost solid body of quartz, 17 feet thick. Thousands of tons of rich ore are now in sight.

Big Bug.—The German Co. have had to suspend operations until more water comes. ....The companies at work in the vicinity of Gray & Co's mill, are said to be making about $6 per day.

Black Canon.—The few miners there are doing well.

Arizona City.—At a little town called Los Angeles, 18 miles above Fort Yuma, Mr. Wakefield and others are working deep placer diggings, and they are paying well.

BRITISH COLUMBIA.

Cariboo.—*British Colonist:* At Perry Creek, 26 companies were at work at date doing well. The Shaw Co. struck a nugget worth $80; Downey Co., a $28 piece. The following companies for three days previous: Downey, 50 oz.; Montgomery averaged 10 ounces per day; the Jewelers' Shop, $128 per share for three days' work; Price, $120 per share in same time; and others from an ounce per day up. Number of shafts were being sunk, none had struck bedrock, although a depth of 38 feet had been attained.....On Wild Horse Creek the miners were making preparations.

Rock Creek.—The Flume Co. were at work, having reached their new ground.

William Creek.—The mining prospects were improving, and the general feeling was one of confidence in the approaching season.....The Barker Co. last week washed 96 oz.; Cariboo, 72 oz.; Canadian, 43 oz.; Baldhead, 40 oz.; Caledonia, 40 oz.

Stout's Gulch.—Coombs Co. washed 80 oz. All the other companies getting ready to work when the water increases.

Conklin's Gulch.—Renfrew Co. washed 60 oz; Eclipse Co. have just got their tunnel into their own ground, but have not got ready to work from it yet.

Mosquito Creek.—As the waters improve so do the prospects of this creek. The Minnehaha last week had 174 oz.; the Willow and Tabb are just commencing to work. Tom and Jerry, on Red Gulch, putting in machinery.

[illegible] Creek.—The Discovery Co. continue running their tunnel, and are making small wages as they go on.

COLORADO.

Baker S. M. Co.—*Georgetown Miner*, April 22d:—The air shaft between the 2d and 3d levels is completed. A large contract for stoping has been let, and 30 men will soon be at work, night and day, taking out ore. The road from the mill to the mine will soon be opened.

Rip Van Winkle.—There is great excitement on Brown Mountain about this new discovery. It was struck at a depth of 70 feet from the surface in running a crosscut. There is one foot of solid argentiferous galena, showing brittle silver in the vein. Hon. Carver J. Goss is the fortunate owner.

Terrible.—The air compressers and engine have arrived and are being placed in position.

Bullion report of Huepeden & Co. this week, 2518.45 ounces, coin value $2140.25. This company keep pounding away night and day. A full supply of ore is coming in constantly.

Quaker.—The shaft is down 70 feet. A contract has been let to sink 50 feet. The crevice is 3½ feet wide, showing a large pay streak. About 10 tons of first-class ore are at the mouth of the shaft. First-class ore assays from 100 to 500 ounces to the ton. Beautiful specimens of brittle silver are found.

Large Mass of Silver.—We saw at the banking house of George T. Clark & Co., a huge mass of silver from the Brown Company Smelting Works, weighing 560 lbs. Troy; value in greenbacks, $11,000, the product of 33 tons of ore from the Brown and Coin.

The dressing works of the Wilson & Cass are enclosed and a large portion of the machinery on the ground. The mill will be completed by the first of June.

Judge Dickerson, of Black Hawk, is erecting a mill on Chicago Creek for the reduction of silver ores.

Snake River.—John Reynolds informs us that they have struck it rich and large on the Comstock. They are taking out huge blocks of solid ore, spattered all over with ruby silver....The Potosi has been struck two hundred feet deep in Capt. Slawson's tunnel, showing a crevice of twelve feet between walls.....The Guibar extension of the Potosi has been sold for a round price....Black & Milner are taking out ore in large quantities from the Monte Christo. This is a large lode, supposed to be an "extension" of the "Suky."

Boulder City *Pioneer*, April 21st:—The Ni-Wot mill and mine have entered upon a season of active work. The property of the company, worth one hundred and fifty thousand dollars, was sold by sheriff last week for five thousand dollars, to satisfy a claim of Hussey & Co. The plaintiffs have agreed to restore the same to the company if the latter will liquidate the claim, including all expenses, within fifteen days. Mr. Pomeroy has gone east to get the company to accede to these terms. In the meantime, Messrs. Breath and Grose have a lease from Hussey & Co. A force of 30 men is now at work. In Wyoming and Snowy Range districts there is but little doing. There are a few prospectors, but no preparations have been made for any extensive development. Some of the most promising surface indications for silver in Colorado are in these districts.

Clear Creek.—Central City *Herald*, April 28th:—Charles Bangs has quit working his lodes on Chicago Creek until the summer rains are over. Meantime, he has gone to work on Montgomery bar. Mr. Bangs intends to cut a bed-rock ditch about 700 feet long, which will obviate the necessity of pumping. There will be more mining done on the Creek this season than ever since 1861. The old Grass Valley company has been brought to life, and will go to work again. There are about 25 men working on the head of Chicago Creek, Cascade district, who believe they have first-class silver lodes. From assays of specimens, we feel confident that the district will prove good. There will be a good chance for prospectors there when the weather settles. Abundance of good timber and fuel is found in the vicinity, and the water power cannot be excelled in the Territory.

Brown.—J. W. Watson, Supt. of the Brown works, Clear Creek, will in a few days begin making another button of silver, which will probably be larger than the last, the largest ever made in America.

Mr. Conlee has found a large body of seven ounce ore in the Gilpin mine. He has been working on three ounce ore for a long time, and now finds that the larger vein was missed in sinking.

Sale of Mining Property.—E. D. Fritts has sold an undivided two-thirds interest in 1,400 feet on the O. K No. 2 lode. Also,

two-thirds interest in 1,400 feet on the Washington lode, Gregory district, Gilpin county. Ore from these lodes have yielded in a stamp mill, six ounces per cord. The price paid for the property is $13,333.

BRIGGS.—Choice ore from the Briggs mine is worth $1000 per cord. The fifty-stamp mill is kept constantly supplied, and the mine promises to keep this up all summer.

Robert Teats is getting some remarkably rich silver ore from his mine. We saw a specimen which was literally crammed with native silver. The mill is now in good repair, running up to its full capacity.

We saw some specimens from a new discovery this morning, which were worth their weight in coin. The specimens were nearly solid gold, and the quartz being pure white, they are the most beautiful we have ever seen.

Truman Whitcomb's mill never stops. He is fixing some pans for running tailings. The stamps are now crushing ore from the Forks and doing well.

The dispute on the Creighton and Shaffer No. 1 lodes has been adjusted. Van Camp & Tuttle have given the Shaffer party all the gold taken from the mine, with the exception of about one hundred dollars. About sixteen cords of ore was taken from the mine by the Shaffer party, which is reported to have yielded at least $2,000. Van Camp & Tuttle will continue to work the property.

Van Camp & Co. are raising a cord and a half of pay material per day, from the Creighton lode. We understand that it runs 14 ounces gold per cord.

CASH CREEK.—Denver *News*, April 21: Active mining operations have commenced throughout the neighborhood. The big fluming company will begin work next week. Prospects are encouraging.

IDAHO.

GRANITE CREEK.—Idaho *World*, April 20th: The sale of the Brainard claim, was not consummated. An offer of $50,000 for a claim of 1,800 feet, near by, owned by some Frenchmen, has been refused. The ground sluicing claims in the creek have been opened, and each promises to yield good pay. Ellis, Devine & Co. are running their claims and ditches day and night. Times are growing brighter.

IDAHO CITY.—The claims on Moore Creek, from town to above Walla Walla Flat, are actively worked, and between 300 and 400 Chinamen are employed. A number of white miners are at work here and there with rockers, and make first-rate wages. Across the creek the hydraulic claim of Meredith & White is running, and down the creek, below the mouth of Elk, there are several hydraulics in full play, besides those of Elkins, Wood, Saunders, Noble & Co., on Bonum Hill and along Buena Vista Bar. Gold dust is coming in, and trade is reviving....Reuh. Peyton showed us the gold product of quartz from a ledge near Granite Creek, less than a pound; the yield was $22.

IDA ELMORE.—Silver City *Tidal Wave*, May 4th: The Co's mill—the Lincoln—steamed up yesterday, after a resting spell during the breaking up of the road to the mine.

MONTANA.

I. X. L. MILL.—Helena *Herald*, April 27th: J. C. Ricker, of the I. X. L. Mill, from a week's run on ore from his claim on the Union No. 2, brought to town this morning another of those nuggets of gold retort, which pulls down 418 ounces and bears a currency value of about $10,000.

Dr. Tiernan informs us that in consequence of the owners of the big ditch, at Gold Creek, raising the price of water to 50 cents per inch, the miners had become greatly exasperated, and on Saturday resolved to lay their claims over for one year, and allow no man to buy any water from the old ditch, but to go in together and build a ditch of their own.

NEVADA.

HUMBOLDT.

LITTLE GIANT.—*Register*, May 13th: We are informed by John Dryden, County Assessor, returned from Battle Mountain, that the average yield of the mine for the last quarter was $260 per ton; also, that there is sufficient ore of the same description, now in sight, to supply the mill for months.

NEW DISCOVERY.—Wiles and Henderson have discovered a ledge near the Alpha mine, in Echo District, which is reported as being exceedingly rich.

COPPER.—A large copper vein has recently been discovered in Gold Run District by Messrs. Montgomery and Winn, and has been found by assay to contain $75 per ton in silver.

REESE RIVER.

TWIN RIVER SILVER M. Co.—*Reveille*, May 4th: The property of this company, in Ophir Cañon, comprising the Murphy mine and hoisting works, a 20-stamp mill, offices, buildings, tools, supplies, land, etc., is advertised for sale.

HARDING AND DICKMAN.—7th: Five tons of ore just worked at the Manhattan mill, yielded by assay $973 per ton.

MANHATTAN.—Product for April: Number of tons of ore reduced, 532; bullion produced, 100 bars, weighing 9,358 pounds, and valued at $138,822 51 in coin. The average yield of the ore is about $263 per ton. The whole of the ore reduced was produced by the mines of Lander Hill, of which quite a number contributed small lots.

CHASE.—In the vertical shaft on the Chase mine in New York cañon, four miles north of this city, a vein was pierced a few days ago. This vein is 18 inches thick. An assay of the ore made yesterday yielded $210 of silver to the ton.

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

THE BURNING MINES.—*Enterprise*, May 4th: The shafts of the Crown Point and Kentuck have been closed, and steam will probably again be forced into them. The fire which has so long been smouldering in the depths of the mine was doubtless fanned into new life by the fresh air forced into the underground works by the blowers. Should there be no increase in the smoke in the Yellow Jacket, a full force of workmen will be put into that mine to-day.

IMPERIAL.—5th: It is proposed to run the drift at the 1,000-foot level further west. Only barren quartz and porphyry is found as yet in either that or the 1,100-foot level. From the old portion of the mine a daily yield of about 110 tons are obtained—80 tons of which are worked at the Rock Point mill, Carson River, and 30 tons at the Gold Hill mill.

GOULD & CURRY.—6th: The company are still sinking in their main shaft, and will probably not send off a drift until they have passed through the vein. The vein has a very promising appearance, and small bunches of ore are frequently met with....An assessment of $5 per share has been levied on the capital stock of the Belcher....The Hale & Norcross Co. have declared a dividend of $6 per share..... The Eureka Mining Co., on Cedar Hill, are taking out excellent ore. Their vein is not large, but in places very rich.

OPHIR.—7th: The drift west from the 700-foot level of the new shaft is now in 250 feet. The clay streak recently encountered is passed entirely through, and the face of the tunnel is now in hard gypsum rock. The surface at the level of the new shaft is 150 feet lower than the surface of the old one.

ALPHA.—Some rich streaks of ore are being found in the Alpha at the 900-foot level. As yet, no very considerable body of ore has been encountered, but several small and rich veins have been found north of the incline. One streak is yielding some five tons per day of fine ore.

ASSESSMENT.—An assessment of $20 per share has been levied on the capital stock of the Confidence mine.

BULLION.—8th: Yesterday we noticed four bars of silver bullion from the old North American mine, south of the Overman, at American Flat, valued at $8,616.33. This is the second lot of bullion from the mine since work was commenced.

THE BURNING MINE.—Gold Hill *News*, May 7th: A pungent, gaseous smoke still issues from the Crown Point shaft through the surface covering, inducing the belief that fire still exists. Both that and the Kentuck shafts continue closed as tightly as possible. The Yellow Jacket mine is free from unusual gas or smoke, all the drifts and other points of connection between it and the other two mines being effectually closed. A full force of miners are tumbling out the ore at a satisfactory rate.

SILVER CITY.—Cor. S. F. *Herald*, May 3d: The Twin mine is yielding at the present time only about $10,000 a month, but might be made to yield double that sum with a little more effort. We visited the mine on Saturday, passing through its various tunnels, drifts, shafts and inclines, in which we saw large quantities of ore, much of which will pay from $75 to $150 to the ton. On the 165-foot level the top of a new body of ore has been cut into, which gives $103 per ton by assay.

OCCIDENTAL MINE.—Letter from Gold Hill,—6th: There are vast quantities of ore now developed in the mine, and every foot in depth gained in the winze now being sunk from the old workings, to connect with the lower tunnel, is expected to cut the ledge in a short time, at an additional depth of 400 feet, is developing a higher grade of ore than any heretofore found in the mine.

[See Page 319 for continuation of Mining Summary.]

White Pine Summary.

The *News*, of May 1st, has an editorial upon "the situation" at White Pine. It calls attention to the fact that prejudiced letter-writers have failed to depopulate the district; and gives the probable reasons for such prejudice. We quote a sentence or two which express, in an emphatic manner, the editor's own opinion of the region:

"We have examined the mines of White Pine pretty thoroughly, and having had long experience in silver mining, have no hesitation in saying that, for richness of ore, size and number of well defined ledges, and extent of area covered by the compact mineral belt, White Pine Mining District has no equal recorded in history. * * As soon as milling facilities can be had there will be in White Pine ten dividend paying mines to every one in any other district in the State, and our bullion shipment for 1870 will fall little short of thirty millions."

TUNNELS.—*Empire*, April 30th: Treasure Hill will be prospected chiefly by tunnels. Some 20 companies for this purpose have been formed, some of which have already commenced operations. The Eastern Slope, running from the east side of the hill, opposite the Hidden Treasure, now in over 100 feet, in slate all the way, has been run at the small cost of $15 per foot.

The Sascatchewan, from the opposite side of the hill, is now in 135 feet—about 30 feet of which is in earth, costing $10 per foot, and balance in limestone, quartz and spar, costing about $30 per foot. This tunnel crossed a streak 20 feet wide of ore-bearing matter, the most it of a sufficiently high grade to pay for milling—a portion being extremely rich.

A little to the south of this tunnel is that of Chloride Flat Lode and Tunnel Co., now in some 50 feet. It is going straight under the richest portion of Chloride Flat, which it will penetrate at a depth of 100 feet.

WALLACE MINE.—This is three quarters of a mile east of the Eberhardt. The shaft is down six feet, and a piece of the ore from the bottom is good, exhibiting chloride in every part. The texture is the same as that of the ore of Treasure Hill. The ledge shows good rock the full width of the shaft (four feet). The Wallace is owned by a company composed exclusively of printers.

AURORA CONSOLIDATED.—May 1st: The ore shipped to McCone's mill will pay from $250 to $500 per ton. This Co. have out some 300 tons. Should it be necessary to take out 500 tons per day, they can do it with ease.

The Derby mine has a quantity of ore sacked and are constantly shipping. The ore is first-class. The Eclipse and Manhattan are taking out a large amount of first-class ore. All the claims we have mentioned are good mines, and will pay from $100 to $800 per ton.

CHARTER OAK.—The ore has yielded by assay at the rate of $3,000 per ton. About 50 tons of millable ore are now on the dump. It is slightly impregnated with base metals. The size of the lode has not yet been determined, though it is known to be at least 30 feet in thickness.

POCOTILLO.—From the shaft great masses of the richest gray chloride ores are being raised.

GOOD OMEN.—This mine is owned by parties from San José. They are taking out ore which pays from $1,000 to $1,200 per ton. There seems to be any quantity of it.

EBERHARDT.—*Empire*, 5th:—We visited this mine on Monday last. The ore being reduced at this time is what is termed the black ore; although it has not a favorable appearance to the inexperienced eye, it yields about $6,000 per ton by mill process. We do not propose to give an idea of the richness of the chloride stratum, for we know it would prove a failure. But we would say there is now exposed to the eye at least three million dollars' worth of ore. In some places there is "horn" silver two inches thick. We were made the recipient of a piece weighing a little over a pound, which is worth $10.25. It is perfectly malleable. Although we have been through every level from the sage-brush to 1,000-foot station of all the mines on the Comstock, and have seen them in their glory, yet we have never seen anything that would compare with this great mine. The ledge of ore that will mill from $600 to $18,000 per ton, is 183 feet wide, and how deep it extends, no one can tell. The mine at this time is employing but few men, and most of those are prospecting. Should it so happen at any time that this mine should desire to take out $500,000 in a single day, they can do so, and not employ more than half the number of men employed daily in the Savage mine. It is our honest conviction that the Eberhardt will in time yield more silver than has ever been taken from all the mines on the Comstock ledge.

We were shown a piece of ore in the hoisting works which was sewn up in a piece of green rawhide in order to keep it from being broken to pieces by visitors. The ore weighs 600 pounds, and $3,000 has been repeatedly offered for it, but refused.

FOGUS.—*News*, April 29th: A shaft fifty-five feet deep has been sunk, and a fine body of ore developed. The Excelsior, Little Bilk, Norfolk and Crown Point, all present indications of flattering character. Upon the Excelsior a large force are engaged, and fair grade chloride ore is being daily extracted.

STRIKE ON THE B. M. RANGE.—Same of 30th: We were yesterday shown some fine looking ore from the Chancer and Phillips mines, on the Base Metal Range. That from the Chancer, a ledge ten feet in width, is the finest looking surface ore we have seen in the District.

SAM SLICK.—May 1st: In this claim, west of the road to Hamilton and near the Fogus, some very fine ore has been developed.

HIDDEN TREASURE.—This mine is looking exceedingly well, and a large amount of excellent ore is being extracted daily. There are about fifteen men engaged. A shaft on the west side of the ledge is being sunk with dispatch. At a depth of forty feet a drift has been started east for the ledge, the west wall of which has already been cut, and a fine body of first-class ore developed.

ROSE BUD.—This is the name of a claim just below the Shermantown road, from which we have been shown excellent chloride ore. The ledge has been stripped fifty feet.

PLACER MINES.—At Elko there is a rumor afloat that rich Placer mines have been discovered somewhere within sixty miles of that place. Several parties had quietly taken their departure for the new mines, but none knew in what direction they went. A considerable quantity of gold dust, estimated to be worth $16 per ounce, is said to have been exhibited from the mines.

MILLS AND SMELTING WORKS—MCCONE'S MILL.—*News*, April 30th: The mill is now about complete and will be ready to steam up within the next few days. This mill has ten stamps, of seven hundred pounds each, and is capable of reducing about twenty tons of ore per day.

Same of 4th: The smelting furnace owned by J. J. Bassey, near Swansea, has made a second run on ore from the Base Metal Range. Three and a half tons were reduced, yielding about 600 pounds to the ton, valued at $227.40 per ton. The ledge is about 150 feet in width. The supply of ore appears to be inexhaustible, and we have no doubt the Base Metal Range will attract much attention on the part of capitalists within the next few months. In our judgement it is the finest field for prospecting anywhere in Eastern Nevada.

ANOTHER MILL.—Same of 4th: Captain Layne, Superintendent of the Hidden Treasure, informs us that a forty-stamp mill, formerly located at or near Lincoln, Placer county, California, has been purchased by the mine which he superintends and has been shipped here.

OUTSIDE DISTRICTS.—*News*, April 30th: Judge Rohadson has returned from a prospecting tour through Patterson, Snake, Shoshone and other districts to the south-east. A great many men are out in all directions prospecting, and a rumor has reached Patterson of a rich strike twelve miles south. Some important discoveries have been recently made in the Snake range, 25 miles to the eastward.

SACRAMENTO.—A correspondent of the *Empire* says: After a partial examination of some of the principal mines, among which may be named the Sacramento, Oro Fino, La Plata, Livingston and Lexington, I must say these are of themselves sufficient to warrant a population equal to that of White Pine district. Specimens have been shown me from the Golden Age, Antelope, San Antonio and Alpine ledges, that are bespecked with gold—the prominent metal of the district. This is situated about 90 miles from Hamilton in a southeasterly direction.

ROBINSON.—A letter to the *Alta*, from Mineral City, says: "There are about sixty ledges located within a radius of three miles, the ore from nearly all of which shows very rich. We have seen some 20 assays, varying from $75 to $273 per ton, with an average of over $50 in gold surface rock. The ledges are all well defined, running northeast and southwest. There is plenty of wood and an abundance of water in the immediate vicinity."

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

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CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.
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CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.
OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.
Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, May 15, 1869.

Notices to Correspondents.

J. D. T. DISTILLER, San Francisco, asks the following question: "What effect has a high altitude on liquors when weighed with a hydrometer, in comparison with the same strength of liquor in San Francisco? Liquor being at proof at the level of the sea, what would altitude have upon the hydrometer on the same day at 9000 feet—or at the summit of the Sierra Nevada on the Pacific Railroad?" Our correspondent has failed to point out the kind of hydrometer used or intended to be used. On this point we may observe generally, that a difference may exist, or these instruments may vary in their proportional expansive properties, accordingly as the variation of pressure may be between the level of the sea, and 9000 feet above it; and that of the liquid (of whatever kind that may be) under the same circumstances. If the expansibility were equal in the instruments and the liquid, no difference would be exhibited.

ANATOMIST, MURPHY'S.—In regard to the statements made of the human skull found in the gravel diggings in your vicinity, there does not appear to exist any reasonable objection to its authenticity. Sir Henry de la Beche, in his report on the Geology of Cornwall and Devon, mentions that several human skulls and works of art, buried in an estuary deposit, were found in mining gravel for tin, at Pentuan, the skulls lying at the depth of forty feet from the surface; and others were found at Carnon, at the depth of fifty-three feet. The over-lying strata were marine, containing sea-shells of living species and bones of whales, besides the remains of several living species of mammalia. Looking at the small breadth of country from which the debris could be derived which had covered these remains, and comparatively limited supply of aqueous fluid flowing from such small areas of watershed, it is by no means unreasonable to suppose that in an equal space of time twice, thrice or quadruple the quantity of debris might be deposited at the feet of our lofty Sierra Nevada.

PRO AND CON.—A paper on the Metalliferous Resources of Nevada, is received.

PAUL & WOON'S PROCESS.—The attention of the mining public is called to some certificates which appear in our advertising columns, in reference to the working of ores by the Paul & Wood electric process. We understand from Mr. A. B. Paul, who has just returned from the other side of the mountains, that this new process has been subjected to a thorough practical working test in a number of quartz mills in the interior, meeting with the approval of experienced millmen, and coming fully up to his own expectations.

Mining Statistics.

Some time in March last the report of the "Commissioner of Mining Statistics for the States and Territories west of the Rocky Mountains," made its appearance in Washington; but, so far as we have been able to learn, no copies of that public document have yet been received in California. A few days since, however, we incidentally learned that a very neatly bound *private* edition of the same was on sale at one of the bookstores in this city. Having procured a copy, a hasty examination enables us to say that the report, considering the time allowed for its preparation, contains a considerable amount of very presentable matter for Eastern readers, although we fail to notice much that is especially new to Californians. The book contains 256 pages, 96 of which are devoted to Nevada, only 24 to California, 39 to other mining sections, and the balance, some 100 pages, to the "Relations of Governments to Mining," and consists mainly of a rehearsal of the mining laws of various foreign countries, together with some deductions suggestive of a modification of our own legislative policy in this direction. On this subject the Commissioner says: "I think the true course is to alienate the mines from the United States as soon as possible."

He fails to see "any protection for permanent investment of capital" at White Pine, in consequence of the ill-digested character of the local mining laws of that district. He gives a very accurate though extremely brief description of the few mines particularly noticed in Nevada and California, several of which are illustrated with profile sketches. Although brief allusions are made thereto, he does not describe any of the processes employed in working ores, or offer any special suggestions as to improvement in this direction; and yet this is the only subject connected with such a report where there is much room for giving practical and valuable information. A chapter or two devoted to a comparative statement of the mechanical and metallurgical treatment of ores in Europe and on this coast, would, no doubt, have been read with much interest, and most likely with considerable profit, by persons engaged in mining operations here. The supposed intimate acquaintance of the Commissioner with European "processes," together with his "scientific and practical experience," had encouraged many on this coast to look especially for some important information in this particular. This desire seems to have been particularly warranted from the instructions of the Secretary of the Treasury addressed to the Commissioner before he entered upon his duties. We copy as follows:

The most important subjects for inquiry at present seem to be—

First.—As to the different processes of treating the ores, their chemical combinations, and the system demonstrated by practical experience to be the most successful.

Second.—The relative merits of the various inventions, machines, and mechanical contrivances, now in use or projected for the reduction of the precious metals, and for all other purposes connected with the business of mining and metallurgy.

No such instructions were issued to Mr. Browne, probably from the fact that he did not profess to have any practical knowledge upon the subject.

The third and fourth specialties in the "Letter of Instructions" relates to inquiries into the nature of the legislative action, which would be most beneficial to the mining interest, and to the propriety of establishing national institutions for the education of miners. Each of these secondary subjects of inquiry are fully discussed and with an ability which leads the reader to all the more regret that the primary and more important ones were not as fully considered.

We presume, however, that this report may be taken as merely preliminary in its nature, and that as the appropriation is continued, we may look for a full consideration, in the next report, of matters so vital and interesting to the mining public.

It may not be improper, in this connection, to refer to a matter which has caused no little remark here: Why it is that the Government should be to the expense of collecting and printing such a mass of information with regard to the mines of the Pacific Coast, and yet allow its agents to withhold the circulation of the printed documents from among those most interested in the information they may contain; or at least to manifest such an indifference thereto as to amount to the same thing. Of the many thousands of each of these documents which have been printed at the expense of the Government, those which have been seen in this State can be counted only by dozens, and even those have been obtained with much difficulty. The want is professedly supplied by individuals, who kindly volunteer to print and publish *private* editions of such documents, which are sold in the bookstores at good prices. We have no difficulty in obtaining a reasonable supply of other public documents of less value. Why should these mining statistics be made an exception? At this distance it looks very much as though somebody were attempting to make a speculation, at the expense of the Government if not of the people here. There seems to be a screw loose somewhere.

White Pine Progress—Ore Deposits, Stocks, and Mining.

Fair weather at Treasure Hill has had a moral influence, the effect of which is very perceptible, even at this distance, in everything that is said or done touching the mines and stocks of Treasure Hill. A new atmosphere of sentiment on the subject is beginning to prevail, which seems to us to be a decided improvement upon the sensational, unnatural condition,—so much resembling that of a patient laboring in a real fever, only that it has affected a community—which characterized White Pine during the stormy months of approaching spring. The mystery is clearing up. So much, concerning White Pine, has been "wonderful beyond conception;" it has figured so largely as the "poor man's paradise," and as "a mountain of solid silver;" as "different from anything ever known or heard of before," "the richest silver mine yet known or dreamt of in the world," that the MINING AND SCIENTIFIC PRESS felt justified in a little disapproval in noting the fact likewise pertaining thereunto that there were only twenty-five stamps at work, for so long a time, when it seems to us there certainly might have been more. We see less of the professional company-incorporators, of the go-betweens with shrewd ideas, who tackled returning White Pines and took them hob-nobbing with capitalists, of the wide-awake lawyers, all dealing with the fever-smitten. There is less mystery now, since the patient's pulse has improved. It was too evident that truth and information of the kind bearing upon permanency or the nature of the deposits, was not a leading article of demand during the loafing period when "everybody was on the sell," and when the striking of a band or discoloring of chloride of silver had the effect to put the work in abeyance. Quite naturally, the White Pine ore deposits, under circumstances so created, were "different from anything else ever known"—imagination of chloride scattered without method, and of chloride solid in the depths, being, for the time, the "*known*."

While nobody has been so stupid as to claim that Treasure Hill is not possessed of wonderful mines, it must be evident that defence of the loafing and selling-out policy that has been practiced in hundreds of mines, showing streaks and colors of chloride only, was the worst thing that could be said or done in favor of White Pine district.

It is becoming apparent that the only chloride mines on which money ought to be raised, are such as have proved, on continuing work, and by means of prospecting shafts, the existence of at least one continuous ore channel. The fact having become known that chloride traces can be found, and located gratis almost anywhere on Treasure Hill, the occupation of the company organizers who carried capitalists in their pockets is gone, and the demands of those enterprising moneyed men who lent their names as incorporators, are also likely to become more reasonable. Of the less speculative moneyed class, though they look on lovingly lingering near the bait, there are few so silly as to bite where the right kind of information is not ample and the proceedings above board. Millions of money are waiting to develop the new mines, provided only that tangible information and confirmation, after due lapse of time, be not withheld.

The richer mines appear to be working, now, principally for the wealth that they are able to take out. The Eberhardt is down 200 feet, and is reported to be a continuous vein. We see no reason whatever for doubting it. Touching the character of these ore deposits, we have published everything of a reliable nature or to the point, under that head, that has transpired. In so many months, there has indeed been very little. After our tracings of the points of similarity between Treasure Hill and Reveille, and Hot Creek districts, with the pipe and rake veins of Derbyshire, with the horizontal, and vertical, and diffused deposits of Chañarcillo, there came something more definite (if not too theoretical?) from Mr. Cadwalader; and to-day we take pleasure in calling the attention of our readers to what we deem to be the first clear, reliable, and satisfactory because indisputable account of the character of these ore deposits, that has yet been given to the public—we refer to the article by Mr. J. E. Clayton, on the fourth page.

It is not necessary to dispute about the arbitrary signification of a "true fissure" vein. The veins are there, both flat and vertical; and they go down as deep as veins do in general, whether they be entitled to a description as "true fissure veins," by reason of slickensides, selvage, or gouge, or of continuance in one general plane, or not. We must take them for what they are. The general characteristics of White Pine veins will be found to agree with the laws of vein deposits elsewhere. If there are peculiar local modifications, let us discover them, for the benefit of those who would proceed to their work with intelligence, and with the greatest possible degree of safety and economy.

A circumstance characteristic of White Pine veins which has confused many, though a very ordinary occurrence, shown in connection with every kind of metal mined, is the diffusion or ramification in bands and zones of ore traces in country rock. Every practical miner infers, however, that somewhere or other such ramifications must connect with larger ore channels, and if these are mere enlargements, or stockworks containing paying ore, while mining may prove exceedingly profitable on the "where it is, there it is" principle, it must necessarily be precarious. Ore channels develop into true fissure or fractured veins, stockworks, flat deposits, or anything else, depending mainly upon the conditions presented, mechanically and chemically, by the country rock, as one of the reagents on the fluids by whose favorable circumstances and affinities silver was concentrated in the spot.

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Treatise on Earthquake Dynamics and Earthquake Palliatives.

The first results following the appointment of a Committee on Earthquakes by the Chamber of Commerce of the city, have appeared, pursuant to announcement, in the form of a pamphlet, 8vo pp. 96, prepared by the late Secretary of that Committee, Thos. Rowlandson, Fellow of the Geological Society of London, etc., and published by Dewey & Co. Though not the regular and official report, which we understand from the preface is to be made up of individual contributions from members of the committee, the present work, being a compilation in part from Mallet's exhaustive treatise while it also gives the pith of other authorities on the subject, serves very appropriately as a fore-runner to the local working up which is promised us, from three or four of the leading members of the Earthquake Committee.

Rowlandson's new work comprises the following subjects: Earthquake Dynamics; Earthquake Waves; Sound that attends Shocks; Lime, Mortar, etc.; Cosmogony and Seismogony; Phenomena of the Neapolitan Earthquake of 1857; General Observations Respecting Structural Arrangements. The Table of Contents in detail will be found in our advertising columns.

At the annual meeting of the Chamber of Commerce, held on Tuesday evening, the President of that body stated that the present work, containing a large amount of valuable information on the subject of earthquakes, had been published under the auspices of several members of the Committee, and that an extensive report was being prepared by Mr. Gordon, which would, however, not be ready in less than about two months.

Besides giving precisely the kind of information that is most needed touching the present state of earthquake science, Rowlandson advances original and interesting ideas on the subject of cosmogony; and presents a chapter on mortar and bricks, a part of which will be found quoted in another column.

White Cloud, Neveda.

The interest in this new district is increasing. A stage has commenced running from Oreana, twenty-five miles distant, on the Central Pacific Railroad. Population is coming in, and preparations are being made for a town site at the mouth of the cañon, one and a half miles from the mining camp. A mule trail has been made in the cañon. It is the plan of the miners to extract the ore of the different ledges by shafts, they having confidence that the rock is rich enough from the top to transport and pay all expenses, after work is once fairly started. Several new ledges of a very promising character have been located during the past few days, among which are the Poorman and Moonta. The ores we have examined from this district seem to carry a large amount of mineral, copper greatly predominating in the croppings of some. As depth is reached on these ledges, if the copper metal gives way to the more precious ones, as is often the case, it must prove one of the very richest localities on the coast. Some industrious miners have the work of developing the mines in their hands. It is believed that the ore can be smelted on the ground and the bullion alone brought to this city for refining. Col. Bee reports, through the *Alta*, an assay of ore from the original White Cloud location of over $1,000 per ton in gold and silver.

Chicago has demanded space, we learn from the President, Mr. Hallidie, in the approaching Mechanics' Institute exhibition, which is to open in San Francisco on September 14th. Such a fact needs no comment.

Several interesting editorials already in type, are crowded out this week—including notice of Woodside's wagon wheel hub spring.

Just Published---May, 1869.

Treatise on Earthquake Dangers,

CAUSES AND PALLIATIVES,

BY

THOS. ROWLANDSON,

FELLOW OF THE GEOLOGICAL SOCIETY, LONDON, AND LATE SECRETARY OF THE JOINT COMMITTEE ON EARTHQUAKE TOPICS.

"Diseased nature oftentimes breaks forth
In strange eruptions; and the teeming earth
Is with a kind of colic pinch'd and vex'd,
By the imprisoning of unruly wind
Within her womb; which, for enlargement striving
Shakes the old beldame earth, and topples down
High tow'rs and moss-grown steeples."—(HENRY IV.

CHAPTER I.

Seismology, the Youngest Branch of Cosmical Science; Order of Inquiry—Physical, Mathematical, and Observational; Metallic Contents of Veins; Impulse; Shock; Sounds; Velocity; Elastic Wave of Shock; Twisted or Vorticose Movements; Fractures; Transit Velocity of the Wave Form..... 9—25

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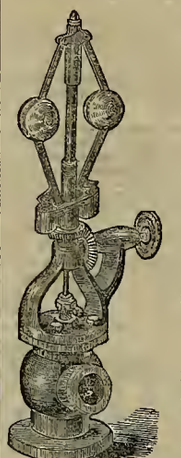

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The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

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HUGH H. LAMONT. WM. CALDWELL.

Cyclops Engine and Machine Works,

Construct and Repair every description of

Stationary and Marine Engines, Mill and Mining Machinery.

Special attention given to Repairing Machinery.

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THE RISDON

Iron and Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,000,000.
Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Bevoe, Binsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch.

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Ben. Holladay,

JOHN N. RISDON, President.

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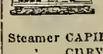
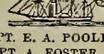


COMPANY.



Steamer CAPITAL.....CAPT. E. A. POOLE
" CHRYSOPOLIS.....CAPT. A. FOSTER.
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" CORNELIA.....CAPT. W. BROMLEY
" JULIA.....CAPT. E. CONCKLIN.

Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville Colusa, Chico, and Red Bluff.

Office of the Company, northeast corner of Front and Jackson streets.

13v12 B. M. HARTSHORNE, President.

Railroad Items.

The railroad fever, in this State, is still on the increase. Indeed the entire western slope seems to have entered upon a period of remarkable activity in railroad matter, a result naturally growing out of the rapid filling up of the interior portions of the country with an active, permanent population. Much of this activity is, of course, due to the excitement attending the completion of the great overland road, and the consequent additional influx of population expected in that direction. We notice that numerous local roads are constantly being proposed in various sections of the all Pacific Coast States. Many of these are of conrse mere rival rontes, and cases where only one out of several will be finally adopted and built.

RAILROAD EXTENSIONS.—There is just now an unusual fever in Sonoma and Napa counties. The Petaluma *Journal* says they "have got it bad," up that way, the malady showing itself in favor of numerous "extensions" of the Vallejo and Marysville road, which passes through the southwest corner of Napa county. A road is earnestly called for from "Napa Junction," first to Napa City, thence northerly to Calistoga, thence westerly to Healdsburg, in Sonoma county; also, beginning at the same point, (Napa Junction,) to pass through Sonoma, Santa Rosa and Russian River valleys to a point near Cloverdale; and also from a point at or near Santa Rosa to Bodega and the ocean, *via* or near by Bloomfield. A company has been organized for the purpose of carrying out this programme, with a capital stock of five millions. The aggregate of these roads will comprise a track of 140 miles, and will open up a large number of the most productive valleys in that portion of the State; such an improvement is greatly needed. The citizens of Bloomfield and Bodega are maturing a project for a more direct connection with this city by a branch from the proposed Saucelito and Humboldt road.

The road from Petaluma, running north towards the Russian River Valley, is progressing rapidly—the grading is now nearly completed to Santa Rosa, and the iron for the same is expected to arrive here in season to be laid down, as far as that place, this fall. Its extension to Healdsburg, will, no doubt, be completed another season.

A branch of this road is projected to Bloomfield, at which place a meeting was held a few days since, of which the Russian River *Flag* says: "The meeting is likely to result in the people in that region paying a handsome bonus—say ten or fifteen thousand dollars—to get the branch road completed to that place this year. The Company, through their Superintendent, Col. F. A. Bee, offer to complete the road to Bloomfield by the 1st of January next, if enough money is raised to make it an inducement."

OROVILLE AND VIRGINIA.—The work of grading this road, which had been but just commenced, has been suspended for the present, because of the fact that no aid was furnished by the late Congress. Mr. Bensley, the energetic President of the road, now at the East, is, however, meeting with good success in his efforts to secure funds, from private resources, for an early resumption of the work.

THE railroad bridge, at Marysville, was crosses by a train, for the first time, on the 6th instant.

VIRGINIA AND CARSON.—It is calculated that the Virginia and Carson railroad will be completed to Carson City early in November. When this road is carried to the river so as to connect Virginia City with her principal mill sites and a good timber region, it is confidently expected that the benefits derivable therefrom will be so great as to insure its further extension to the overland road at or near Elko.

THE WESTERN PACIFIC.—Work on this road is being pushed with great energy. Over 200 men are now at work in the vicinity of Barta's, on the west side of the San Joaquin, and between that river and Livermore Pass. A large number of men have recently been transferred from the now completed overland, to the unfinished link which is to effect the counection with this city. A contract has been made within a few days for 4,000 piles, which are to be employed in the improvements which this road is soon to commence on its Oakland water front termiuus.

CENTRAL RAILROAD EXPERDIENT.—The Central Pacific has now about 175 locomo-

tives on the California portion of the road; about 400 box cars; 20 complete baggage and mail cars; 130 head cars; 55 track cars, and 101 section cars. Of passenger cars the supply is as yet quite small, only about 30 having been received. Large numbers, however, have been built and are daily being received over the road. Large additions are also being constantly made to each of the other descriptions of cars. Sleeping cars will be provided, but will be kept only on those sections of the road where night traveling is to be done, and the charge for their use will be extra from the regular fare.

RAILROADS TO AND IN OREGON.—Chief Engineer Hudnutt, who is now engaged in running a line for a road, which it is proposed shall start for Portland, Oregon, from the Pacific Central near the Big Bend of the Humboldt, has recently arrived at Portland, and reports very small engineering difficulties in the way of such a road. Congress, just before its late adjournment, passed a bill giving to this road the same land aid as was given to the Central Overland. It is proposed that this road shall pursue nearly a northeast direction, until it crosses the Cascade range of mountains, 250 or 300 miles South of Portland, when its course will be almost due North to that city, from whence another road will soon be built to Puget Sound. Two branches from this State must eventually intersect this road—the one from Saucelito or Vallejo, passing up the coast, through Humboldt county, west of the coast range, and another from Marysville up the Sacramento Valley. One trunk will serve for the three roads for the first 250 miles south of Portland; while the Marysville branch would strike the main Oregon branch not far from 100 miles still farther this side of Portland, but to the east of the Cascade range, thus requiring only about 250 miles of independent road. The branch from the Central road at Humboldt to Portland will be about 600 miles long. The bar at the mouth of the Columbia, and the falls within twenty miles of the mouth of the Willamette, present such serious impediments to water communication with Oregon that railroad facilities named above, will soon become imperative, and the work of their construction cannot be commenced too soon. These roads will open up to a ready market several of the largest and finest agricultural valleys on the Pacific Coast, which will prove most important business connections with this city. The increase in the value of land along their line will be more than twice their cost. Their final construction is a mere matter of time.

GEO. E. ROGERS,
(Successor to G. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qr10pur

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INSURANCE COMPANY
OF SAN FRANCISCO, CAL.,
Office, No. 422 California street.
Cash Assets, Jan. 1, 1869, - - $1,520,740 18
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MARINE,
AND
INLAND
INSURANCE.

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COMMISSION MERCHANTS,
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On all kinds of Ores, and particular attention
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CARD PICTURES,
ONE DOLLAR PER DOZEN,
And Photographs, Ambrotypes and Sun Pearls, by first class artists, at the lowest rates,
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N. GRAY & CO.,
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☞Sole Agents for Barstow's Metallic Burial Cases and Caskets.
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No. 225 Sansome Street.
Interest paid on Deposits. Money Loaned on Real Estate.
H. DUTTON, President.
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CARPENTER and BUILDER,
No. 324 Jackson street, between Sansome and Battery,
Stores and Offices fitted up with neatness and dispatch.
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BUCKELEW & CO.,
Importers and Jobbers of
Choice Teas, Groceries and Provisions.
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PURCHASER OF
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The highest market price paid for ores assaying 10 per cent. and upwards 23v17qr

W. C. CAMPBELL.
PATTERN AND MODEL MAKER,
No. 20 Fremont street, over Phœnix Iron Works, San Francisco.
Particular attention given to MODELS for the Patent Office Brands and Pattern Letters Cut. 4v18mtf

Farms and City Property.
C. H. WAKELEE & CO.,
601 California street, S. W. Corner Kearny street, buy and sell Farms and City Real Estate. Parties wishing to invest will find it to their interest to call on the . 13v18-3m

Pump Leather.
The attention of MINING COMPANIES, and others requiring a superior article for Hydraulic purposes, is invited to the heavy Oaked Tanned Pump Leather, manufactured and prepared expressly by the undersigned.
TRADE SANTA CRUZ TANNERY E. JONES & Co MARK.
Constantly on hand and for sale by
GRAY, JONES & CO.,
Depot of the Santa Cruz Tannery,
418 Battery St., San Francisco.
25v17-1y

The Oakland Daily Transcript.
A BIT PAPER.
The Largest Circulation in the County.
Advertisements in the Transcript will reach every part of Alameda County.
RATES FOR ADVERTISING
VERY LOW.

MECHANICAL AND ARCHITECTURAL
Drawing School
—FOR—
APPRENTICES.
MR. FREDERICK HELLERT,
An experienced Draughtsman and Teacher, has opened an Evening School at No. 414 CLAY STREET (same entrance as the Mining and Scientific Press Office), where he is giving thorough instructions in DRAWING to apprentices who are inclined to self-improvement. His terms are moderate and within reach of the humblest apprentice; and we are pleased to say that the enterprise is meeting with success.
1v18.tf

A GOOD INVESTMENT.
THE MOUNT MORIAH
Silver Mining Company,
OF ARGYLE MOUNTAIN,
White Pine District,
NEVADA.
Capital. - - - $300,000.
6,000 Shares, $50 Each.
FULL PAID AND NOT LIABLE TO ASSESSMENT.

President.....A. DE LAND
Secretary.....LOUIS COHN
Superintendent at Mines.....CHAS. E. HARRIS

TRUSTEES:
A DE LAND, THOMAS ANSBRO,
CARL PRECHT, LOUIS COHN,
W. S TAYLOR.

This Company offer to the public One Thousand Shares of the Capital Stock for a Working Capital, at the subscription price of Five Dollars per share—FULL PAID, and NEVER liable to any assessment whatever. The mine is admirably located for working, being situate on Argyle Hill, opposite Treasure City. Shaft sunk 10 feet, showing a large body of chloride, which assays $700 per ton, and which will now mill $200. The capital raised to be used and expended on the mine. The standing and reputation of the Trustees is ample guaranty of responsibility, etc. Maps and samples of ore, and subscriptions at the office of the Company, Rooms No. 15 Stevenson House, corner California and Montgomery, and at 211 and 213 California street, near Battery street. 16v18tf

ILLINOIS
SILVER MINING COMPANY
White Pine District.
Trustees:
JAS. H. CUTTER, B. H. FREEMAN,
E. H. SHAW, JAS. R. GARNISS,
DAVID BUSH.

The Company's Mine adjoins the celebrated "Silver Glance," and is in close proximity to the "Argyle," and other prominent mines of the District.
From developments already made, the Trustees feel justified in saying to their friends that this is one of the best opportunities ever offered for investment in this State.
For the purpose of further developing the mine, the Company has set aside a limited amount of stock, to be sold as a working capital, of which they now offer 1000 shares, at the nominal price of $2 50 per share, unassessable—the entire proceeds of which will be devoted to developing the mine.
The books of the Company are now open for subscription at the office of the Company, No. 432 Montgomery street, Room No 1, first floor By order.
JAS. H. CUTTER, President.
G. W. STEWART, Secretary.
15v18-2m

The Perfection of Prepared Cocoa.
MARAVILLA COCOA.
Sole Proprietors—TAYLOR BROTHERS, London.
The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skillful application of their soluble principle and elaborate machinery, produced what is so undeniably the perfection of Prepared Cocoa, that it has not only secured the preference of homœopaths and cocoa-drinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.
"A SUCCESS UNPRECEDENTED."
[See following extract from the Globe of May 14, 1868.]
"Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adapting their perfect system of preparation to this finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.
Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.
6v18-1y

International Hotel,
JACKSON STREET
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.
THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.
Prices varying from $1 50 to $2 per day for Board and Room.
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.
☞ Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYGANT, Proprietor.

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J. S. PHILLIPS, M. E.,
CONSULTING ENGINEER,
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423 Washington street.....San Francisco.
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Has removed from 522 Montgomery street to
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Surveying Instruments made, repaired and adjusted
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AT WHOLESALE AND RETAIL.
635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
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Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

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Is now prepared to fill all orders for
GIANT POWDER,
Put up in Boxes, either in Bulk or in Car bridges.
General Agents,
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CARLOS O'DONNELL'S
California Cordial Tonic,
—OR—
Wild Cherry Bitters.
TRADE C. O. D. MARK.

This elegant preparation is acknowledged by all who have used it to be the most efficient remedy for every disease of the
STOMACH AND BOWELS,
Yet introduced to the notice of the public. Immediately on taking a dose of it, the patient will find a genial glow pervading his entire system, and its steady use for a short time will be followed by a healthy appetite and a good digestion, even in the case of the most confirmed dyspeptic.
To all who are suffering from
INDIGESTION,
DYSPEPSIA,
DYSENTERY,
DIARRHŒA,
NERVOUS AFFECTIONS,
Or any of the manifold troubles caused by a diseased action of the stomach, this remedy is confidently recommended as a safe and certain cure.
N. B. JACOBS & CO., Sole Agents,
15v18-3m 423 Front street, San Francisco.

OCCIDENTAL
Insurance Company,
OF SAN FRANCISCO.
Cash Capital, - - - - - - - $300,000
GOLD COIN.
Office S. W. corner of Montgomery and California streets.
Fire and Marine Insurance.
All Losses paid in U. S. Gold Coin.
CHR. CHRISTIANSEN, President
B ROTHSCHILD, Secretary 20v17-3m

Agricultural.

Cultivation of Nut Fruits in California.

Very few persons are awars of the large amount of capital invested in the business of importing fruits and nuts into the Atlantic cities; and in no part of the Union is a larger amonnt spent in this direction, in proportion to her population, than in California. The climate at the East admits of little prospect of cultivation in this direction; but not so here. Careful experiments have proven that nearly every variety, of all the long list of nut fruits, will grow to perfection and in great abundance in this State. Even at our present high rates of labor, the most of the foreign varieties of nuts may be grown here, not only for home consumption, but for export to the Atlantic States. We aro already growing some of them and doing well at it; and the press of the State should urge upon our people the benefits which would resnlt from a greatly increased extension of this branch of business. Indeed, there is no reason why Californuia should not become as celebrated for her exotic nut fruits, as for her golden grain.

California has a double interest to subservo in the growing of nut fruits; the secondary object being the supply of hard wood timber for use in ths mechanic arts, which might be abundantly furnished in a few years hy planting a judicious selection of such trees. Our ability to cultivate them has now been fully shown, and it is gratifying to observe the growing inclination to enter more largely upon such culture. The item recently noticed, of the introduction of several thousand Japanese chestnut trees into this State, at one shipment, is a marked evidence of progress in this direction.

There are several varieties of nut fruits indigenous to the State, chief among which is a species of the black walnut, a hard shell nut which grows wild on the bauks of the lower Sacramento and in many other well-watered places in the center and southern portion of the State, particularly about Walnut Creek and other localities around Mount Diablo. This nut is enveloped in a burr, and the appearance and taste of the fruit is much like that of the Eastern fruit of the same name.

Either this or a species quite similar, grows abundantly in many localities in the sonthern part of the State, particularly in Los Angeles County. This tree furnishes a very fine timber for many uses; but will not answer the purpose of the hickory or white oak.

THE HAZEL NUT also grows well in nearly every part of the State, hut of a variety too poor to be worth gathering. The filbert, which is but another variety of this fruit, would no doubt flourish in great perfection if introduced here. This nut requires a cool, dry, gravelly or sandy loam, but uot a particularly rich soil; it seems to prefer au indifferent soil, annually dressed with some suitable compost. An anuual dressing seems to be required for its vigorous growth. It may be propagated by grafting, layers, suckers or seeds. To secure good varieties, grafting or layers should be employed. The filbert should never be allowed to grow high. Dwarfing is the only means of securing a uniformly good crop.

TAE ENGLISH WALNUT crop of the State now rcaches an annual amount of about thirty tons, and is gradually increasing. The quality is quite superior to any imported. It thrives particularly well in localities south of Point Conception. North of that point, except in sheltered places, tho crop is not always sure.

THE ALMOND.—The soft shell almond is also very productive wherever the English walnut thrives. It is a more reliable crop than the latter, and the quality of the fruit produced in California is not surpassed anywhere. The almond appears to flourish particularly well in Santa Barbara County, where it is common to see two-year old seedling trees hearing from one to two pounds of fruit. This branch of culture can he safely entered upon in California, to any reasonahle extent, for export to the East. There is as little risk in this business as any which can he named. In 1864-5 there were only about 4,500 almond trees in the entire State. The number now cannot be much if auy less than 20,000. The culture of this fruit was attempted as far north as Shasta; but the climate there is too cold. It will not suceed, to any great extent, north of the Sacramento River. Its cultivation should not be attempted in open plains, where there is free exposure to high winds. Full grown trees producs from twenty to thirty pounds, worth in this city about $20 per cwt. There are not less than $50,000 worth of this fruit used annually in California, and more than one and a half million in the entire Union. The hard shell almond is much more hardy than the soft shell variety, and grows anywhere in the State; it is a prolific bearer, but the hardness of its shell and inferior quality of its meat renders it of but little value for tablo use.

THE HICKORY has been tried in California, and pronounced a failure. Our impression, however, is that its cultivation has been attempted only in the valleys, and a failure there would be no argument against any attempt to cultivate the tree in the mountains.

We have a most excellent substitute, however, for the hickory, in the pecan nut tree, a native of the lower Mississippi, a hardy and enduring tree, which matures rapidly, and is a prolific bearer of a nut which brings a good price. The wood is second only to hickory for mechanical uses, and is largely employed iu the Westsrn Statss for spokes, shafts, felloes, tool handles, etc. One-third of all the ax and pick haudles brought here, and sold for *hickory*, are made from pecan wood. This tree will grow to perfection in any of our California valleys.

We believe its culture has already been commenced in one or more of the southern counties. Mr. Tuttle, of San Bernardino, if we mistake not, has some trees growing on his ranch, and might possibly be able to give important information with regard to it. Fresh seeds only should bs used; they may be planted iu the field like the acorn. One fact should always be borne in mind in the cultivation of all trees;—if the tree is mainly designed for wood or timbsr, save the tap-root, it will add vigor to the growth. If fruit is the principal object, it is quite as well that the tap-root should be severed, as the effect is to dwarf the tree and improve the fruit. Hence a fruit tree is bettsr for being transplanted, while a timber or forest tree should be planted where it is intended it should grow.

THE CHESTNUT is another tree which can be profitably grown both for its fruit and its timber. It will commence bearing in this climate in about six years. There are many varieties which are much superior to that which is indigenous to the New England and Western Statss. The Spanish or Maronne and the Japanese are among the best, and should be preferred for cultivation here. The latter cau be obtained on application to Mr. Horace D. Dunn, of this city.

In some parts of Europe the chestnut is highly prized for food, and is eaten, boiled or roasted. It is ground into flour and enters into the composition of cakes, puddings and hread, and is stewed with cream into a favorite and dainty dish. In some portions of the south of France it forms the stable diet of the poorer classes.

The chestnut attains a great age, seldom showing sigus of decay until it is over a hundred years old. It proves a most excellent wood for finishing work, furniture, fencing, etc. It grows readily from the nut, and prefers a moderately rich soil—a sandy loam with dry bottom; but will grow well almost anywhere, provided the subsoil is dry or well drained. This tree is now being largely cultivated in Europe for its timber.

The extensive planting of nut-bearing trees in Ca'ifornia, is a mere question of time. Formerly every farmer in this State calculated on a sudden rise in potatoes or wheat or barley, every one or two years, by which he might make a fortune at once. The speculative era is now happily passed, and farming is entered upon as a legitimate bnsiness, to be followed for a long course of years. The people who are now tilling the soil are men who have awakeued to the fact that a permanent home is a desirable thing—better than sudden riches, with the consequent excitement and changes which they bring. Farmers are uow willing to set out frnit and shade trees, and wait for the legitimate returns from such culture; for they have an abundance of the means of support while these trees are coming to maturity. The work of setting out and cultivating such trees can be done when little else is to be attended to on the farm. Farm work is now hurried through by the aid of machinery, leaving the farmer with abundance of time for miscellaueous work, and for mental improvement. Farmers, don't forget to plant a few trees every year; they will be an invaluable addition to your farm and to the State, for their wood, their shade, and their fruit.

New Mining Advertisements.

Daniel Webster Mining Company.—Location of Works: White Pine County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Black, J J	27	50	$5 00
Black, J J	28	40	4 00
Black, J J	29	50	5 00
Black, J J	30	500	50 00
Brewer, Wm	53	10	1 00
Brewer, Wm	54	10	1 00
Brewer, Wm	55	5	50
Coupland, W F	71	100	10 00
De Ro, Chas, Jr	95	50	5 00
Evatt, W J	26	10	1 00
Farrington, Chas L	157	100	10 00
Heniz, A H	105	10	1 00
Hentz, A H	106	10	1 00
Heniz, A H	107	5	50
Jackson, Andrew	31	13	1 30
Jackson, Andrew	33	25	2 50
Jackson, Andrew	34	25	2 50
Jackson, Andrew	35	25	2 50
Jackson, Andrew	36	13	1 30
Jackson, Andrew	37	25	2 50
Jackson, Andrew	39	400	40 00
Jackson, Andrew	40	150	15 00
Jackson, Andrew	41	100	10 00
Jackson, Andrew	42	150	15 00
Jackson, Andrew	108	10	1 00
Jackson, Andrew	109	10	1 00
Jackson, Andrew	110	12	1 20
Jackson, Andrew	111	17	1 70
Proeschold, Chas	78	50	5 00
Strahle, Henry W	72	50	5 00
Strahle, Henry W	73	100	10 00
Strahle, Henry W	74	100	10 00
Strahle, Henry W	75	100	10 00
Strahle, Henry W	76	100	10 00
Stetson, Geo D	61	25	2 50
Stetson, Geo D	62	25	2 50
Stetson, Geo D	63	25	2 50
Suckau, John	77	50	5 00
Schord, L G	56	25	2 50
Taylor, Holmes	60	50	5 00
Taylor, Holmes	65	100	10 00
Thompson, Ira D	100	50	5 00
Thompson, Ira D	101	25	2 50
Thompson, Ira D	102	25	2 50
Thompson, Ira D	103	25	2 50
Thompson, Ira D	104	300	30 00
Wigmore, James	50	10	1 00
Wigmore, James	51	10	1 00
Wigmore, James	52	5	50

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of April, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 418 California street, San Francisco, on the thirty-first day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. A UHRIG, Secretary.

Office, No 418 California street, San Francisco. my15

French Silver Mining Company.—Location of Works: White Pine District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of May, 1869, an assessment of five cents (5c) per share was levied upon each and every share of the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh day of June, 1869, shall be deemed delinquent and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. my15

Marlborough Silver Mining Company.—Location of Works: White Pine District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of May, 1869, an assessment of five cents (5c) per share was levied upon each and every share of the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh (7th) day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. my15

Naestra Senora de Guadelupe Silver Mining Company.—Location of Works: Tayoltita, San Dimas District, Ourango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of May, 1869, an assessment of two dollars per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, No. 210 Post street, or to the Treasurer, A. Himmelmann, No. 647 Washington street, San Francisco, **to settle the indebtedness of the said Company.**

Any stock upon which said assessment shall remain unpaid on the sixteenth day of June, 1869, shall be deemed delinquent, **when the payment will be enforced by law.** By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.

Office, No. 210 Post street, San Francisco, Cal. my15

Mining Notices--Continued.

Bowden Silver Mining Company. Location of works: White Pine, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of April, 1869, an assessment of five cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, 419 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-ninth day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

M. S. MARTIN, Secretary

Office, No. 11 Hayward's Building, 419 California street, San Francisco. ap24

Quartz Millmen.

A gentleman of six years experience as First Engineer and Foreman of Quartz Mills in the State of Nevada, wishes a similar situation. No objection to Mexico or the interior. Inquire at this office, or of W. F. Birch, foreman of the Vulcan Iron Works, San Francisco. 18v18 1m

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth (5th) day of April, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
E C McComb	50	25	$25 00
E C McComb	91	66¼	66 25
Martin White	bal 5	150	150 00
Geo W Frasher	52	20	20 00
Geo W Frasher	53	20	20 00
Geo W Frasher	54	10	10 00
H W Hall	bal 45	25	25 00
John R Mead	49	50	50 00
A G Prince	58	10	10 00
R A Boyle	10	100	100 00

And in accordance with law, and an order of the Board of Trustees, made on the fifth (5th) day of April, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on Monday, the twenty fourth day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. my8

Douglas Silver Mining Company.—White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth (6th) day of May, 1869, an assessment of twelve and one-half cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the eighth (8th) day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. my8

Cordillera Gold and Silver Mining Company.— Morelos District, Chihuahua, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixteenth day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
W R Cooper	50	52	$52 00
W M Bonnett	48	13	13 00
H W Hildreth	123	33	33 00
P M Kelley	190	5	5 00
P M Kelley	226	2	2 0
Henry Blackman	252	21	21 00
Henry Blackman	254	26	26 00
Henry Blackman	278	24	24 00
Henry Blackman	283	40	40 00
A P Voohres	233	6	6 00

And in accordance with law, and an order of the Board of Trustees, made on the sixteenth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Monday, the seventeenth day of May, 1869, at the hour of 12 o'clock M of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary.

Office, 321 Washington street, San Francisco. my1

Capital Silver Mining Company, White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of April, 1869, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the seventeenth (17th) day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of May, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. ap24

Dios Padre Gold and Silver Mining Company, Alamos, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-ninth day of April, 1869, an assessment of three dollars ($3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. C. McComb, corner of Broadway and Battery streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. C. McCOMB, Secretary.

Office, cor Broadway and Battery streets. my1

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fifth day of March, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cozzens & Cleaveland	unissued bal	10	$5 00
Gillig, John	unissued	440	220 00
Hearst, George	unissued	200	100 00
Martinez, Ludislao	unissued	80	40 00
McLaughlin, J W	unissued	1000	500 00
Paul, A B	4	20	10 00
Page, Nath'l, Trustee	2, 3	340	170 00
Wingard, A	unissued	994	499 00
Wade, W N	unissued	120	60 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co, No. 327 Montgomery street, San Francisco, on Friday, the twenty-eighth day of May, 1869, at the hour of 11 o'clock, A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office 408 California street, San Francisco. my8

THE MINING AND SCIENTIFIC PRESS is one of the most useful publications on the Pacific Coast.

Messrs. Dewey & Co., the publishers, are United States and foreign patent agents, and from their intimate connection with the Patent Office, are enabled to furnish their readers with all the latest patents and improvements pertaining to labor-saving machinery, etc.

Mr. Murray will be among our citizens for some weeks. We bespeak for the excellent paper for which he is agent, a lengthy subscription list in White Pine.—*White Pine News, April 23.*

Company Transactions.

New Incorporations.

New articles of incorporation have been filed, as reported in our exchanges during the past week, in the County Clerk's office in this city, the Secretary of State's office at Sacramento, etc., as follows:

MINING COMPANIES.

RICHMOND MINE. White Pine, (a portion of which was in litigation with Eberhardt), certificate filed at Treasure City, May 1st. Capital stock is $1,200,000, 20 shares to the foot, and of the par value of $50 each. The following gentlemen have been elected Trustees: J. S. Pitzer (President), Abo Bateman, William Towle, F. Walsh and George C. Hall, and R. Rains, Secretary. Place of business, Treasure City.

THE RATTLER S. M. Co. Filed at White Pine Co. seat, May 1st. Capital stock, $500,000, divided into 20,000 shares of $25 each. Trustees (for the first three months), D. Hardy, J. M. Gardner, J. M. Hunter, A. Bateman and George Calder. The claim is between the Aurora Consolidated, Chloride Pogonip Flat.

WHITE CLOUD T. AND S. M. Co. Filed at San Francisco, May 7th. Location of claim, White Pine. Capital stock, $1,200,000; shares $100. Trustees, T. D. Morrell, T. R. Posey, W. H. Howard, A. Sedgely and G. L. Smith.

SAN FERNANDO T. AND M. Co. Filed at San Francisco, May 10th. Capital stock, $1,200,000; 12,000 shares at $100 each. Trustees, A. Sedgely, G. L. Smith, P. Hagemann, C. M. Plum and J. Frontin.

MAMMOTH CAVE M. Co. White Pine. May 11th, at San Francisco. The capital stock is $2,000,000, divided into 20,000 shares at $100 each. Trustees, W. R. Deittrick, J. E. Foye, H. C. Conbron, C. N. Oberley, J. H. Sayers, G. A. Ball and Alexander Buswell.

RICHARDS QUARTZ M. Co. Bald Hill District, Del Norte Co. Cal. May 12th, at San Francisco. Capital stock, $300,000; divided into 3,000 shares. Place of business, San Francisco. Trustees; Edward Merryfield, C. W. Wilson, Martin Kelly, Wm. A. Newell and John Lloyd.

COLUMBUS M. Co. Roach Hill, Placer Co. May 4th at Sacramento. Capital, $250,000, in shares of $50 each. Trustees; James Milburn, Frank Henderson, E. P. Bucklin, D. P. Belknap and Ed. Marks.

DEL NORTE M. Co. To operate at or near Happy Camp, Del Norte Co. May 4th at Sacramento. Capital, $600,000, in shares of $50 each. Trustees; Wm. Pierce, Lewis Pierce and Chas. F. Webster.

MISCELLANEOUS.

UREN FUSE Co. San Francisco May 10th. The object is to manufacture in the States and Territories west of the Rocky Mountains a fuse, under a patent issued in December, 1863, to Richard Uren and others. Capital, $100,000, divided into 200 shares of $500 each. Trustees; Richard Ureu, Thomas Dunstone and Rodmond Gibbons.

HOMESTEADS.

THE GREAT PARK HOMESTEAD ASSOCIATION. San Francisco, May 13th. Capital stock, $125,000, divided into 500 shares, at $250 each. Trustees: Cyrus Palmer, Adoph Unger, David N. Hawley and W. L. Palmer.

THE "SUPERIOR" HOMESTEAD ASSOCIATION. To purchase two full blocks and four fractional blocks in the University Mound Tract. San Francisco, May 13th. Capital stock, $65,500, divided into 133 shares of $500 each. Trustees; W. T. Welcker, Thomas B. Lewis, E. W. Cary and B. F. Brady.

THE "FAIRMOUNT." San Francisco, May 13th. Capital stock, $19,880, divided into 60 shares of $330 each. Trustees; H. E. Green, Hyram Wilder, A. B. Winegar, C. F. Webster, John H. Wohlers, Thaddeus Winsell and S. P. Kimball.

THE "BERKELEY." Parcel of land in Oakland. San Francisco, May 13th. Capital stock, $34,160, divided into 112 shares. Trustees; Thomas Anderson, George W. Fisher, E. J. Passmore, H. B. Forester, W. B. Rand, James Atkinson and George Bates.

Homestead share sales continue active.

Meetings, Elections, Etc.

SACRAMENTO BEET SUGAR Co. Trustees elected: W. E. Brown, W. Wadsworth, Julius Wetzler, T. M. Lindley and Theodore J. Milliken.

MAGENTA MINING Co. Trustees elected San Francisco, May 11th.: W. K. Deitrick, Peter Taylor, H. Casanra, D. W. Perley and A. Buswell.

WELLS MINING Co. Trustees elected San Francisco, May 11th.: Geo. B. Merrill, (President,) S. P. Wells, (Vice-President,) O. V. Sawyer, (Treasurer,) J. H. H. Williams, J. A. Pritchard. George H. Russell was appointed Secretary.

LEXINGTON MILL AND MINING Co. Trustees elected San Francisco, May 11th.: W. B. Latham, Jr., J. W. Tabor, Fred Lux and P. Zadig.

THE CELTIC AND TEUTONIC FARM ASSOCIATION. Trustees elected San Francisco, May 6th: Henry Brickwedel, John A. McGlynn, John P. Schmitz, Hon. M. Meagher, Henry Hinders, John T. Barry, F. S. Wensinger, Drury Malone, Jacob Schreiber, P. A Roach, Geo. Groezinger, M. Flood, F. Pulzmann, Daniel McCarthy, John Wieland, Michael Hays, Hermann Schwartze, Jasper O'Farrell, Frantz X. Kast, and Robert Sherwood. Officers elected: President, Henry Brickwedel; Vice-Presidents, John A. McGlynn and Jasper O'Farrell; Treasurers, Hermann Schwarze and Robert Sherwood; Secretaries, F. X. Kast and Thomas Mooney.

UNIVERSITY R. R. Co.—At a meeting held at T. B. Lewis' office, May 11th, the President, J. H. Jennings in the chair, measures were discussed to secure further subscriptions to the stock and speedy completion of the road to Bay View. Colonel Walker was elected permanent Secretary, and 309 of the 1,200 shares were subscribed for. The engineers report was read and approved.

New Patents Issued to Pacific Coast Inventors.

FOR THE WEEK ENDING APRIL 27TH.

SUBSOIL PLOW.—James B. Pullman, Los Angeles, Cal.—89,432.

I claim the combination, in a subsoil plow, of the share E, coulter D, and heel-plate G, with the stock A B C, substantially as and for the purpose herein shown and described.

ANCHOR.—Frederick Wittram, San Francisco, Cal.—89,454.

I claim the combination, with the anchor-shank A, of two or more pairs of arms or flukes, pivoted or otherwise secured to the shank, in such a manner that they can be swung in pairs to a limited extent on each side of said shank, in planes perpendicular to or at any other convenient angle to each other, for the purpose specified.

MACHINE FOR CONCENTRATING AND SEPARATING ORES AND MINERALS.—Robert George, Denver City, Colorado Territory. 89,476.

I claim, 1. A machine for concentrating and separating metals and mineral substances from rocks, alluvials, and other substances, contained in combination, in their natural state, or as mats, or other metallurgic products, when constructed and arranged in the manner and for the purpose herein described.

2. The construction and arrangement of the sieves B1 and B2, in a machine for concentrating and separating ores and metals, in the manner and for the purpose herein described.

3. The combination of the blast-chamber E with the valves *k1 k2 n1 n2*, guide-rods *j1* and *j2*, and coil-spring *i1* and *i2*, in the manner and for the purpose herein described.

4. The combination of the blast-chamber E with the truck *d*, on the shaft *e*, and the piston D, in the manner and for the purpose herein described.

5. The pitman F1 and F2, with the adjustable screw *o*, crank G, wheels *p1* and *p2*, and the conveyer H1 and H2, in the manner and for the purpose herein described.

6. The combination of the wheels *c1 c2*, cords *f1 f2*, and the set-screws *g1* and *g2*, in the manner and for the purpose herein described.

TOY TAROET.—B. L. Stone, San Francisco, Cal.—89,516.

I claim the combination of target, letter A, with the dart, letter E, by the means of the elastic india-rubber cord, letter C, and the piece of twine, letter D, in the manner herein described, and for the uses and purposes hereinbefore mentioned.

THE RAILROAD CELEBRATION—The completion of the Pacific Railroad seems to have been the occasion for a general jubilee throughout the United States. All the prinoipal cities in the Union have taken a part in congratulating exchanges of sentiment. Chicago, however, was more enthusiastic in the matter than any other of our Eastern cities; and as she is properly the eastern terminus of this great highway, it was right that she should thus jubilate by the ringing of bells, firing of cannons, etc., on the joyful occasion. Owing to an unexpected delay on the part of the Union Pacific officials, the last rail was not actually laid on Saturday—the day on which San Francisco and Sacramento celebrated. It was laid on the Monday following, and the last blow on the last spike sent the electric current, east and west, to speak with common voice, and announce the precise instant on which the finishing work was done.

OIL IN PENNSYLVANIA.—During January last, the average daily production of petroleum in Pennsylvania was 10,192 barrels.

Mining Notices.

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-sixth day of March, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Blake, Wm.	63, 64	45	$22 50
Bell, Rosann	6	30	15 00
Bullerman, E G	65, 89, 90, 91 92, 93, 94, 95, 96, 97, 98, 99, 100 101, 102, 103, 104, 105, 106, 107 108, 109, 111, 112, 113, 114, 115	1450	725 00
Bullerman, E G, Trustee	79	100	50 00
Carroll, John C	16, 17, 18	150	75 00
Comaford, P	31	15	7 50
Corbett, John	35	20	10 00
Downey, J P	58	5	2 50
Dillon, P W	32, 34	100	50 00
Farrell, Wm	unissued	30	15 00
Greeg, Jessie K	1, 2	200	15 00
Herlehy, Michael	26	5	2 50
Hamill, John	66, 67, 105	45	22 50
Hastings, John	81	100	50 00
Kernan, Frank	60	30	15 00
Kenedy, James	unissued	15	7 50
Mahony, Martin	10	1	50
McMahon, Miss Mary	29	15	7 50
Murphy, John	62, 124	180	90 00
Neeman, Andrew	12	1	50
Neagle, Wm	61, 84	398	199 00
Newcomb, Thos, Trustee	47	100	50 00
Ockel, Chas	11	5	2 50
O'Neil, Margaret	46	5	2 50
Paul, A B	125	55	27 50
Schoeneman, Henry	5	3	1 50
Sheil, Michael	unissued	10	5 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-sixth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the sales-room of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, California, on the twenty-eighth day of May, 1869, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINCARD, Secretary.

Office, 408 California street, San Francisco. may7

Siempre Viva Silver Mining Company, District of Zarigossa, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of April, 1869, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco. ap17

Troy Ledge Mining Company, White Pine District, Lander County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixteenth day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
G W Hodge	45	120	$18 00
G W Hodge	46	60	9 00
G W Hodge	47	60	9 00
G W Hodge	48	60	9 00
G W Hodge	50	60	9 00
G W Hodge	51	120	18 00
J C Harmon	58	10	1 50
J C Harmon	60	10	1 50
J C Harmon	61	10	1 50
J C Harmon	62	10	1 50
J C Harmon	63	10	1 50
J C Harmon	64	10	1 50
J C Harmon	65	10	1 50
J C Harmon	66	10	1 50
J C Harmon	67	10	1 50
J C Harmon	68	10	1 50
J C Harmon	69	10	1 50
J C Harmon	70	10	1 50
J C Harmon	71	10	1 50
J C Harmon	72	10	1 50
J C Harmon	73	10	1 50
J C Harmon	74	10	1 50
J C Harmon	75	10	1 50
J C Harmon	76	10	1 50
J C Harmon	77	60	9 00
J C Harmon	78	60	9 00
J C Harmon	79	60	9 00
J C Harmon	81	60	9 00
J C Harmon	81	60	9 00
J C Harmon	82	61	9 00
J C Harmon	83	100	15 00
J C Harmon	84	100	15 00
J C Harmon	85	100	15 00
J C Harmon	86	120	18 00
J C Harmon	87	120	18 00
W I Nichols	13	10	1 50
W I Nichols	14	10	1 50
W I Nichols	15	10	1 50
W I Nichols	16	10	1 50
W I Nichols	17	10	1 50
W I Nichols	18	10	1 50
W I Nichols	19	10	1 50
W I Nichols	20	10	1 50
W I Nichols	21	20	3 00
W I Nichols	22	30	4 50
W I Nichols	23	60	9 00
W I Nichols	24	60	9 00
W I Nichols	(No Certificate)	1599	238 50
C W Stevens	balance 91	100	6 67
C W Stevens	balance 92	100	6 67
C W Stevens	balance 93	100	6 67
C W Stevens	balance 94	100	6 67
C W Stevens	balance 95	100	6 67
C W Stevens	balance 96	100	6 67
C W Stevens	balance 97	100	6 67
C W Stevens	balance 98	100	6 67
C W Stevens	balance 99	100	6 67
C W Stevens	balance 100	100	6 67
W J Mowrey	102	18	2 70
J G Mitchell	127	12	1 80
J G Mitchell	128	12	1 80
J G Mitchell	129	12	1 80
J G Mitchell	130	12	1 80
J G Mitchell	131	12	1 80
J G Mitchell	132	12	1 80
J G Mitchell	133	24	3 60
J C Mitchell	134	24	3 60
J G Mitchell	135	24	3 60
J G Mitchell	136	24	3 60
J G Mitchell	137	24	3 60
J G Mitchell	138	36	5 40
J G Mitchell	139	36	5 40
J G Mitchell	140	36	5 40
J C Mitchell	141	60	9 00

And in accordance with law, and an order of the Board of Trustees, made on the sixteenth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Monday, the twenty-fourth day of May, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. ap24

The Annual Meeting of Stockholders of the Williamantic Silver Mining Company, will be held on TUESDAY EVENING, May 18th, at 7½ o'clock, at the office of the Company, No. 418 California street.

ap17-4w C. A. UHRIO, Secretary.

HAYWARD & COLEMAN

IMPORTERS AND REFINERS

—OF—

Illuminating, Lubricating,

—AND—

PAINT OILS,

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO—

Spirits of Turpentine and Alcohol.

Lamps and Lamp Stock!

An elegant and complete assortment.

SOLE IMPORTERS OF

Devoe's Illuminating Oil!

PATENT CANS.

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CHANGE.

C. C. HASTINGS & CO.

Wholesale and Retail!

SUPERIOR GOODS! REDUCED RATES!

C. C. HASTINGS & CO.,

SUCCESSORS TO

Heuston, Hastings & Co.,

SAN FRANCISCO AND NEW YORK,

Announce to the friends of the old firm, and the public at large, that their present business arrangements are such that they are enabled to offer the best and most stylish goods on the Pacific Coast at a great reduction from former prices.

AT WHOLESALE.

The attention of the merchants throughout the Pacific Coast, is called to the fact that we are now prepared to fill their orders for superior goods in

Strictly Custom-Made Clothing, Suits, Gloves, Hosiery, and Furnishing Goods, Trunks, Traveling Bags and Valises,

In lots to suit at regular wholesale rates.

CLOTHING TO ORDER,

Made either in New York or San Francisco, under the pervision of the best cutters in America.

DIRECTIONS FOR MEASUREMENT

Sent to any address upon application, and goods forwarded by Express on receipt of orders. Satisfaction guaranteed

C. C. HASTINGS & CO.,

Successors to

HEUSTON, HASTINGS & CO.,

The Fashionable Clothiers,

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8v18 3m

Agents Wanted---$10 a Day.

TWO $10 MAPS FOR $4.

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Two Continents, America and Europe, and America with the United States portion on an Immense Scale.

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J. T. LLOYD,

19v18-1m 23 Cortlandt street, New York.

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Crude Bullion of any kind, bought at the highest prices Address, ALBERT ARENTS, 110 Kearny street, San Francisco. 13v18-3

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

Machinery.

VARNEY'S

PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Millmen are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

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ELLERY'S PATENT

India Rubber Cement and Paint

—FOR—

TIN, IRON AND METALLIC ROOFS,

Iron, Brick and Wooden Buildings,

SHIPS, STEAMBOATS, STAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

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☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

GEO. T. BROMLEY, Agent,

Battery street, corner Jackson,

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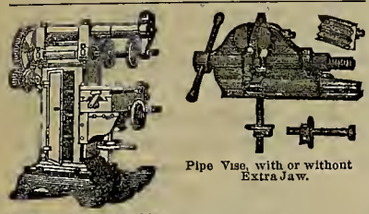

Pipe Vise, with or without Extra Jaw.

Staudard Milling Machine.

UNION VISE COMPANY,

OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

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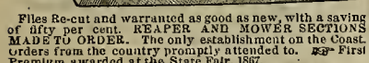
No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**

Removal.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

10v14qr

MACHINERY AGENCY.

RICHARDSON, MERIAM & Co's CELEBRATED

Wood Working **Machinery.**

W. O. M. Berry & Co. 114 California St San Francisco.

Embracing every description of Planers, Matchers and Mortisers, Moulding, Tenoning, Boring, Shaping, Vertical and Circular Re-sawing Machines; Scroll, Railway, Cut-off and Rip Saws, etc., etc. Agents for the Swamscot Co's

Improved Portable Engines,

Warranted fully equal to any in the market; Davis & Furber's Woolen Machinery; Blake's Patent Steam Pumps; Kilburn's and Warren's Turbine Water wheels, etc, etc.

Orders for Machinery of any kind will receive prompt attention. Machines for special purposes built to order. Send for Illustrated Catalogue. W. O. M. BERRY & CO.,

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Notice to Miners,

Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 1 Clay street, below Davis.

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Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

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Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21y16-3m W. McCRINDLE, Manage.

CALIFORNIA TOOL WORKS,

Blacksmith and Machine Shop,

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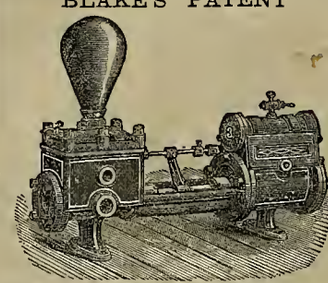
All kinds of Edge or other Tools made to order. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly) attended to. ☞ All work warranted.

21v17-qy **J. WEICHHART, Proprietor.**

BLAKE'S PATENT



STEAM PUMP!

This Pump is warranted superior to any in the market, for Breweries, Sugar Houses, Tanneries, Boiler-Feeders, Steamboats, Mining and Fire purposes, etc. It throws a full stream of the thickest beer mash without clogging, and sugar syrup boiling hot without diffiienty.

Warranted a positive Pump under ALL circumstances; it never stops nor gets out of order, and by reason of the patent device in the valves, is kept clear and always ready for action. It is SIMPLE, COMPACT and POWERFUL, and needs no expert to run it.

☞ If one fails to do the work for which it is sold, it may be returned and the money will be refunded. May be seen in operation at Risdon's, or Union Iron Works, or at

W. O. M. BERRY & CO'S,

Agents for Pacific States,

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A NEW SLUICE

For Concentrating Gold, Amalgam, Sulphurets or Black Sand, in Quartz Mills,

OR PLACER MINES.

It is made without iron work, is cheap, durable, and effective; can be made by any good mining carpenter at the mine or mill, of sizes to separate the Sulphurets from one to fifty tons of sand per hour. There is no expense for motive power, or to handle the sand, if it can be run from the mine or mill directly into the receiving sizing boxes by means of water. It is continual, self-discharging, and can be used for concentrating fine gold and black sand, on the river bank or ocean beach. They may be seen at work in the American Company's Mine at North San Juan.

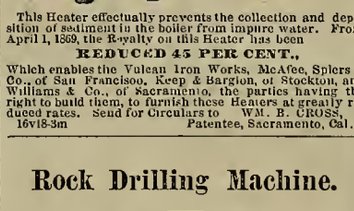
For information how to construct, and the cost, address

ORLANDO JENNINGS,

17v18 North San Juan, Cal.

CROSS' COMBINED

Heater & Sediment Collector



This Heater effectually prevents the collection and deposition of sediment in the boiler from impure water. From April 1, 1869, the Royalty on this Heater has been

REDUCED 45 PER CENT.,

Which enables the Vulcan Iron Works, McAfee, Spiers & Co., of San Francisco, Keep & Bargion, of Stockton, and Williams & Co., of Sacramento, the parties having the right to build them, to furnish these Heaters at greatly reduced rates. Send for Circulars to WM. B. CROSS,

16v18-3m Patentee, Sacramento, Cal.

Rock Drilling Machine.

Patent for Sale.

The Patent of George C. Phillips, issued Dec. 1, 1868, for a Steam or Compressed Air Rock Drilling Machine is now offered for sale on most reasonable terms. An illustration and full description of this Machine can be seen in the Mining and Scientific Press of March 27, 1869. Weight of Machine for ordinary tunnel work, 75 lbs. It is adjustable so as to drill in any direction; will make from 300 to 500 strokes per minute. One machine will do the work of twenty men.

The inventor guarantees to satisfy any party who will interest themselves in the matter, of the entire practicability of his invention. Address, by express letter,

GEORGE C. PHILLIPS,

19v18-1m Shermantown, Nevada.

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For Sale Cheap!

Entirely New and of Modern and Approved Style.

For particulars apply to or address this office.

BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's tariff on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

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BOOKBINDERS,

Paper Rulers and Blank Book Manufacturers,

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(SUCCESSOR TO O. GORD)

MARBLE WORKS,

No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs,

Etc., On hand and Manufactured to order.

☞ Ooods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

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Manufacturer of

PATTERNS AND MODELS,

(Over W. T. Garratt's Brass Foundry,

S. E. Corner of Mission and Fremont sts.,

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J. F. PAGES,

SEAL ENGRAVER,

AND LETTER CUTTER,

Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.

6v16

DESKS AND OFFICE FURNITURE.

JOHNSON & BEST,

Manufacturers of all kinds of

Desks and Office Furniture,

717 Market street, near Third.

Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

Agents Wanted!

For the "American Year Book and National Register," for 1869.

Horace Greeley's Autobiography, and other new and popular works. Send for descriptive circulars.

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SAN FRANCISCO

Pioneer Screen Works,

JOHN W. QUICK, Manufacturer,

Removed to A. Pritzel's Iron Works, 203 Fremont street, near Howard, San Francisco.

Screen Punching in all its branches, at rates reduced from 25 to 40 per cent. less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.

N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

Pacific Chemical Works.

SULPHURIC ETHER.
SPIRITS OF NITRE,
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM

—AND—

ACIDS AND CHEMICALS OF ALL KINDS.

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Office and Laboratory, Sixteenth street, between Folsom and Harrison.

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LEA & PERRINS'

CELEBRATED

WORCESTERSHIRE SAUCE

Declared by connoisseurs to be the only

GOOD SAUCE.

Caution against Fraud.

The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for

Lea & Perrins' Sauce,

and see that their names are upon the wrapper, labels, stopper, and bottle.

Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L and P. give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.

Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.

Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CROSS & CO. San Francisco. 3v18 6m

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. BUFFINGTON,

Room 37 New Merchants' Exchange, California street San Francisco 17v15-tf

Engineering.

Steam Carriages on Common Roads.

At a meeting of the New York Society of Practical Engineering, held April 13th, "Steam and Steam Traction" was the regular subject selected for discussion, the introductory paper being read by Mr. J. K. Fisher. Mr. F. first gave a summary of the various indorsements of steam carriages that have been made by different engineers of standing, beginning with James Watt, who made application for a patent in 1784. Richard Trevithick was the next to build a steam carriage; he was followed by Ogle, Summers and others, applied their time and talent in improving this mode of traction.

In remarking upon the performances of English steam carriages, Mr. Fisher alluded to the fact that the high price of tolls for such conveyances, on English roads, was at first a serious drawback to their introduction, and that when, after many years, the tolls were materially reduced all the original patents had expired, rendering it unsafe for the investments of large capital.

A great inconvenience attendant on the use of steam carriages was owing to the existence of two difficulties,—First, that engines could not last long without easy springs; and second, that such springs were impracticable because the present construction of the engines, rendered unavoidable the lifting action of the connecting rods, causing the rapid destruction of such springs. This latter objection was nearly or quite obviated at the expense of the former, by strengthening or stiffening the springs until thin elasticity was almost totally destroyed. Gurney, and others, invented many devices for overcoming this difficulty; among which was mentioned Hancock's chain gearing. This contrivance proved inefficient from the frequent breaking of the chain.

After noticing other contrivanees, tending to the same end, Mr. Fisher proceeded to discribe an invention of his own, which he claims obviates all the difficulties in this direction. He also described the link valve-gear. This device, which the writer himself applied to steam carriages, dispenses with the use of brakes, governing the power with delicacy and exactness. A noticable difference between the English plan of steam carriages and that followed by Mr. Fisher is, that in the former, the axles are placed near each other, and in the latter far apart; an advantage claimed by Mr. Fisher in his, over the English plan, is a low center of gravity, and perfect freedom from lateral slipping. The fore wheels are also placed in front of the carriage. The application of a screw for steering purposes was also proposed hy the writer instead of the English steering apparatus which, under some circumstanees, is unmanageahle, sometimes even dislodging the helmsman from his position.

In conclusion the writer referred to the various incidental advantages which would naturally arise if steam carriages came into general use, such as the lessening of the expense of road repairs, the practicability of other and cheaper modes of paving, the comparative freedom from street litter, dirt, etc., etc.

An interesting discussion upon the merits of steam earriages followed the reading of the paper, which was participated in by many of the members of the society and of the assembly.

TAXING IDLE MINES.—The Nevada *Gazette* says there are a large numher of gravel mines in that vicinity which, although they have not been worked for six or eight years, are still held by original owners, and are not included in the mining assessment roll. The *Gazette* thinks that inasmuch as other mines are taxed, there is no reason why these should he exempt. Tax them, and if their owners will not work them, they will probahly sell out to somo one who will, and the public will therehy be benefited. That rule is heing applied to the large ranches in the State, and we see no good reason why it is not a good one to apply to mines as well.

SPAIN spends less money upon education, throughout the kingdom, than does the single city of New York.

Mining Summary.

[Continued from Page 211.]

NEW MEXICO.

Moreno Mines.—Correspondent of the Denver *News*, April 21st: L. B. Maxwell's quartz mill yesterday cleaned up 230 ozs. of gold, which was 43 hours' run from the discovery shaft on the Aztec lode, at a depth of 75 feet, which shaft has a five feet ereview. The quartz was not selected, but all crushed as taken out.

Gran Quivira.—The Albuquerque *Review* announces the rediscovery of the ancient mines of Gran Quivira, which were worked by the Spaniards over 300 years ago. When the Apaches compelled their abandonment, the workings were closed up with masonry, and the walls covered with earth. They have often been searched for since but without success.

New Mexico Mining Co.—Santa Fe *Gazette*, April 24th: Col. A. L. Anderson is making preparations to begin work at the Co's mines on a more extensive scale. Work on the new mill house has already progressed considerably. With the improvements that are to be made, Col. Anderson intends to crush at least 60 tons of ore per day. The number of stamps will be forty.

OREGON.

Quartz in Southern Oregon.—The Jacksonville *News*, says: Owing to the failure of our placer mines this season, from want of water, miners are beginning to turn their attention to quartz.

The timber gulch lead is furnishing the most flattering prospects, simply because its owners are applying the true test—that of going down on the lead.

Gold Hill—unprecedently rich as it was—was never sunk on to a depth exceeding 50 feet. The proprietors now offer one half the lead to any person that will put a shaft down 200 feet.

The Fowler lead, at Steamboat City, has paid big dividends, and would so again if properly worked. The Davenport, Hicks and Blackwell, ditto.

Jacksonville *Sentinel*, May 1st: Dillon & Bowden are now down on their lead about 75 feet and still find rich prospects. They will make the rock taken from the shaft pay all expenses.

WYOMING.

Atlantic City.—Sweetwater *Mines*, April 21st: Some eight or ten men are at work on the building for Anthony & Irwin quartz mill, across the creek. Rice & Co's mill is at the Point of Rocks, and will be shipped across to Atlantic immediately. The ledges around Atlantic are being rapidly developed. We were shown specimens from the "Sowles and Perkins" lead, that were covered with free gold. This ledge presents a vein of quartz two feet in width, and prospects $1,100 to the ton. Lamoreaux brothers are vigorously prosecuting work on the "Golden Leaf." Pease & Co. have started a new shaft on the "Mary Ellen," and are opening out a splendid vein of quartz. They intend starting their arastra as soon as the weather will permit.

Golden Gate Ledge.—There is a shaft down 35 feet, with a 12-foot vein; the rock yields $50.75 per ton, by amalgamation process.

Nabob.—This ledge, discovered within ten days, has several tons of ore on the dump, which resembles that of the Nellie Morgan. Work of development is going on.

Young America.—28th: L. A. Hall, of Chicago, arrived in town a few days since, to see after the interest of the Co. He has ordered on, by telegraph, the mill built in Chicago. Operations will be immediately resumed.

Two ledges have been struck during the past week. One by Smith and Chapin called the "Sheridan," and the other by McCarty and McAdams called the "Irishman."

CALIFORNIA
BUSINESS UNIVERSITY,
204 Montgomery Street.

Full particulars regarding our Practical Course of Studie may be had by calling at the University, or by addressing
17v17-qy13p E. P. HEALD, San Francisco.

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Constitution and By-Laws
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Mining and Prospecting Companies

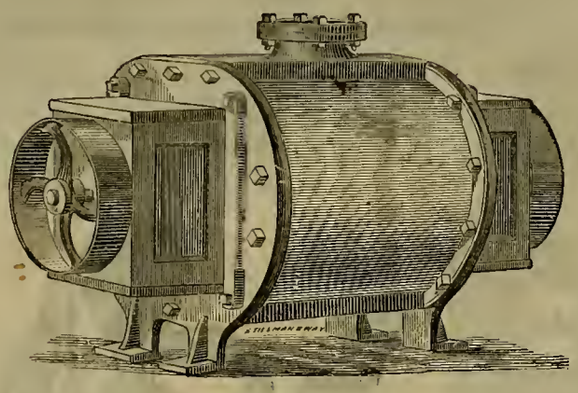
Elegantly printed, with care and dispatch, at the office of the
Mining and Scientific Press.
Orders from the interior faithfully attended to.

Drop Letters.—It should be distinctly understood that drop letters, when sealed, require but ONE CENT postage in towns or cities where there is no free delivery by carriers.

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



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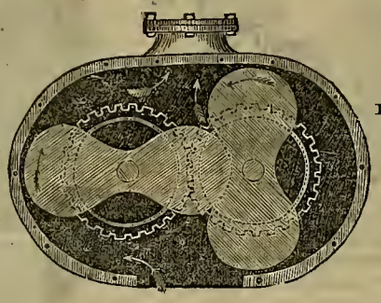

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Caution.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

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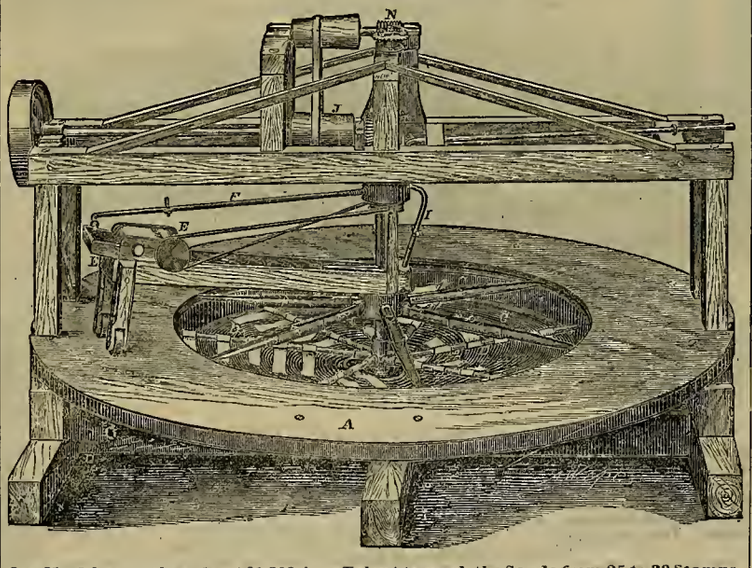
4v16-3m Globe Iron Works, Stockton, Cal.

PAINE & STEPHENS' IMPROVED CONCENTRATOR,

For Saving Gold and Silver Sulphurets.



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Less power being required than for any other Machine. The attention of quartz millmen throughout the State is directed to the subjoined certificates, and if they desire they can visit the Amador Mining Co's mill, near Sutter Creek, the Eureka Co's mill at Grass Valley, or the Banner Co's mill near Nevada, and see for themselves.

CERTIFICATES:

Grass Valley, Jan. 4th, 1869.—This is to certify, that we have used the Paine, Stephens & Harry Concentrators for over twelve months. They have given us entire satisfaction, and are the best we ever used. WILLIAM WATT, Supt. Eureka Mine.

This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.
WM. L. TISDALE, Supt. Star Spangled Banner Mine.

Nevada City, Oct. 26, 1868.

Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE, at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.

13v16eow

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Hooker's Patent, August 15, 1866; Jan. 15, 1867.

IMPROVED

DOUBLE-ACTING SUCTION AND FORCE PUMP.

Fig. 1

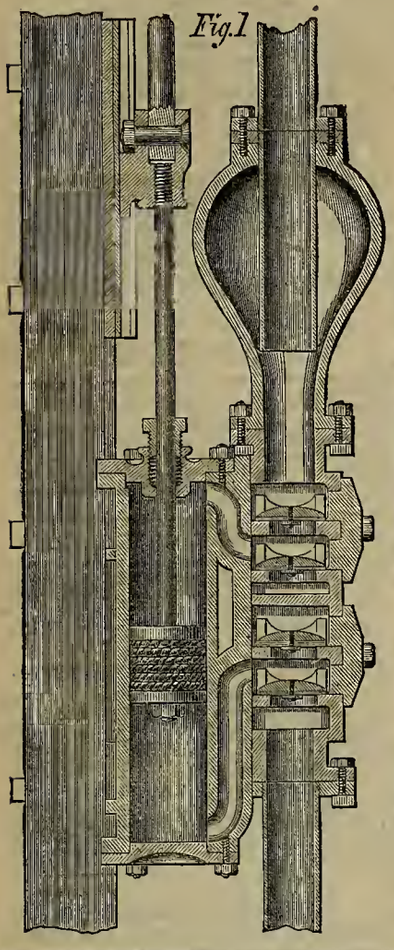


Fig. 2

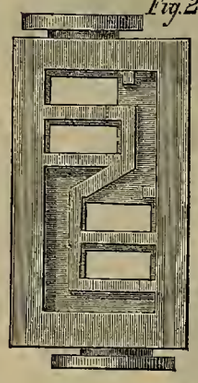


Fig. 3.

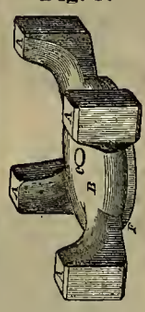
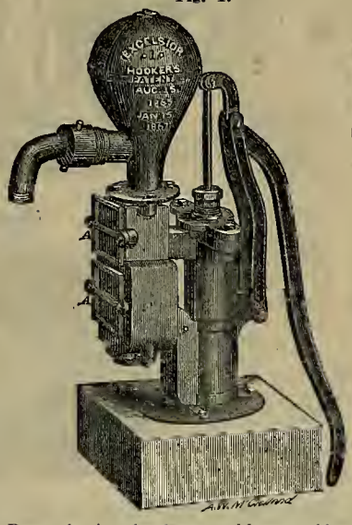
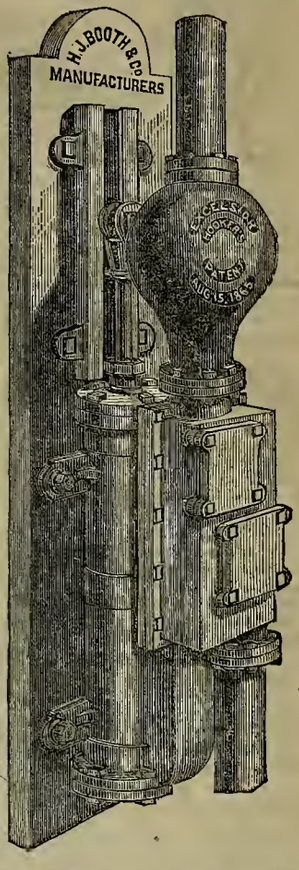


Fig. 4.



Seventeen different Styles and Sizes, suitable for all purposes, and for any kind of power.

Fig. 5.



These Pumps are meeting with universal favor wherever tried, and are now being introduced, in many instances superseding Pumps which had hitherto been considered the best in the world.

Fig. 1 is a sectional view of a 6-inch Mining Pump, showing the plunger and hemp packing on the left, with the chamber on the right containing the puppet valves. Fig. 2 represents the chamber, with the water-passages and valve-seats. Fig. 3 is the valve, operating in the chamber. Fig. 4 is the improved Hand Pump. Fig. 5, a 6-inch Mining Pump, shows the adjustable bonnet opening to the valves.

For Circulars, or further particulars, inquire of or address J. W. BRITTAN & CO. Agents, Nos. 111 and 115 California and Nos. 17 and 21 Davis street, San Francisco; H. J. BOOTH & CO., Union Iron Works, First street, San Francisco, or

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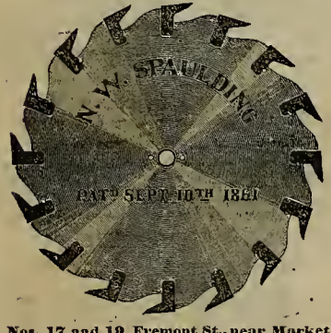

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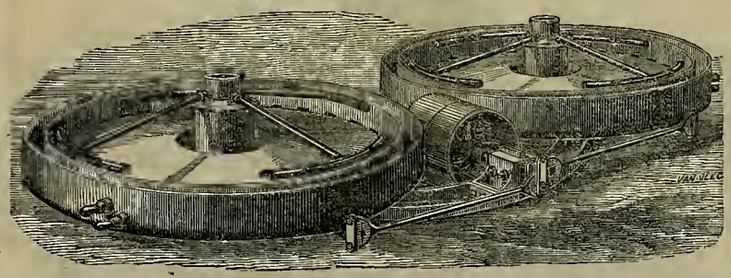
For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868

MR. MORGAN HUNGERFORD—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

In future these Pans will be manufactured by GODDARD & Co., at the Pacific Iron Works, San Francisco, which is a guarantee that they will be built in the most substantial manner.

These Pans may be seen at the Pacific Iron Works, First street, near Howard, San Francisco.

Address,

GODDARD & CO., San Francisco.

Or M. HUNGERFORD, at the Pacific Iron Works.

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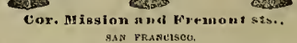

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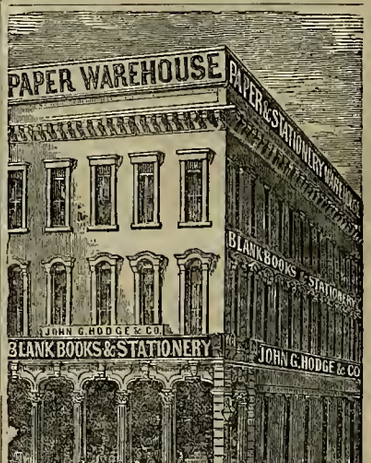

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BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, MAY 22, 1869. VOLUME XVIII. Number 21.

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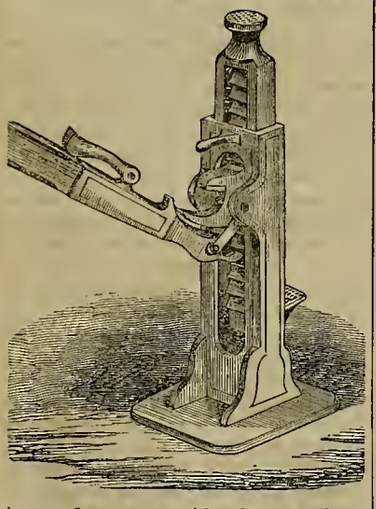
Stebins' Improved Lifting Jack.

The object of the invention herewith illnstrated, is to provide a lifting jack which shall be so constructed that heavy weights may be either raised or *lowered*, as desired, and by the same movement of the lever. This is accomplished by meaue of a pawl, pivoted directly over the operating lever, having a curved projection at the end oppoeite that which operates in the rack. The position and ehape of this pawl is distinctly shown in the accompanyiag engraving. The lever, as now shown, is arraaged for *lifting*—the pawl being so hung, with reference to its center of gravity, that with each downward movement of the lever it

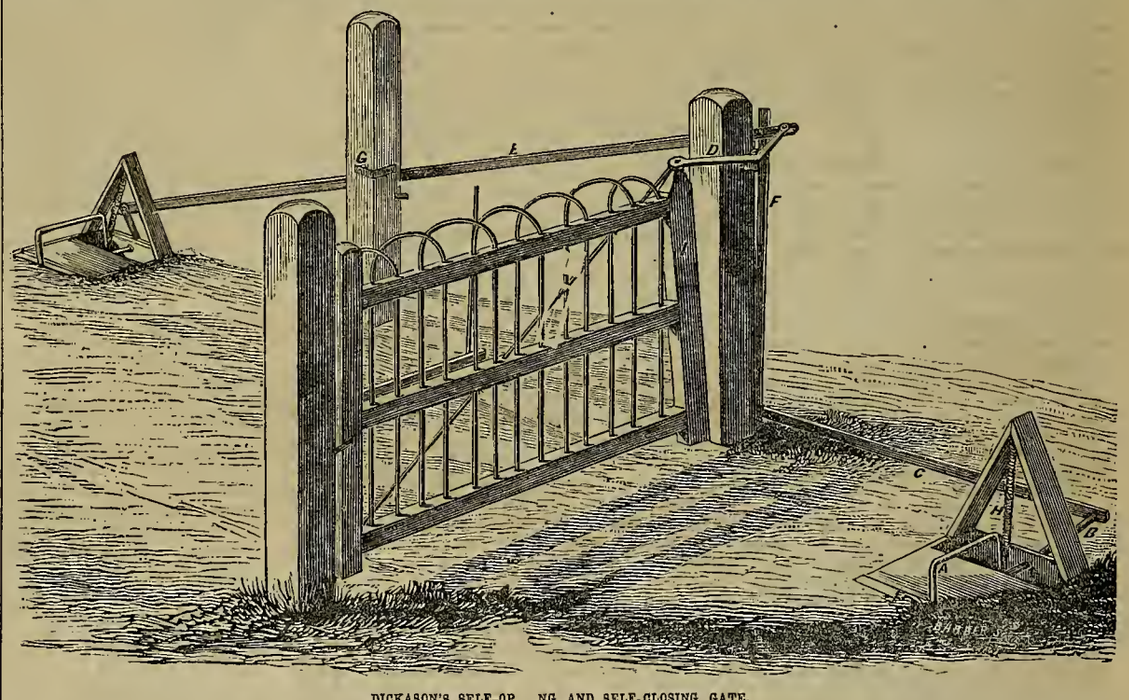


is caused to engage with a lower tooth on the lifting bar. When it is desired to lower any weight, tho weighted arm, which is seen hinged to and thrown back on the lever, is thrown forward so as to rest its weight on the forward curved projection of the pawl. When thus arranged, the jack ie ready for *lowering*, which act is accomplished by precisely the same movement of the lever as before—the center of gravity of the pawl being now, by the added weight of the hinged arm, changed so as to disengage the pawl from the lifting-bar when the lever is preseed downward; so that by sncccssive vibrations any weight is lowered by tho same motion with which it is lifted. Tho invention is very simple, and can ecarcely fail to provo a great coavenience, aad effect an importaat eaving of time to pereons engaged in lifting heavy bodies, where hydraulic power is not required.

This invention has been patented through tho MINING AND SCIENTIFIC PRESS AGENOY. Mr. Timothy Stebins, the inventor, is now manufacturing his jacks for sale, and can be found over the City Foundry on Fremont street, in this city.

Self-Opening and Self-Closing Gate.

One is inclined to placo little confidence in the alleged success of any invention of this kiud, on account of what seems to be a necessarily complicated piece of workmanship, and the well known tendencies to perversity and ricketiness in gates in general. That a self-openiag gate is a desideratum, every man and woman, and every child especially, knows full well. Our illustration represents the Dickason invention, the points concerning which will strike even an unbeliever in such things quite favorably, since its working parts appear to be ncarly as simple as the gate itself. Let us see how the inventor has dealt with his problem:



DICKASON'S SELF-OP NG AND SELF-CLOSING GATE.

The chief featuro showiag originality, and of practical value in the invention, is found in the upper "crooked hinge," D, and in the elanting of that end or part of the gate-frame marked I. To appreciate the full effect and advantage of this, in practice, the device should be seen at work in a model, or in a working gate.

A wheel strikiag the bent bar, A, B, (which has all the leverage that the diameter of the carriage wheel will allow) has the eimple effect to lift the latch-ead of the gate up out of its fastening, but at the eame time, by the motion of the hinge arm D towards the eide ou which the gate is to swing, to throw the frame post I into enoh a position that attraction of gravitation is brought to bear, not to be exhausted until the latch-end of the gate has swung to its lowest level, which will bring the gate against the post G. Its force will epring the latch that holds it there.

When the carriage has passed through, the wheel will strike the bent lever-rod on the opposite side; the effect of which is to lift the latch-end of the opened gate up again, out of its fastening, and hy the return motion of the upright of the frame, I, to swing it back into its closed position, where it is likewise caught and held fast by its latch-spring.

Should the carriage approach from the opposite directioa, the operation would be in every respect the same, as can be eeen from tho identical effect that the wheel would have upon tho hinge-arm, D. In practice, the horse has merely to be checked to a walk, the gato opening so quickly wo are informed, even against a hreeze, as not to halt the animal.

The wheel lever arrangement is anchored in the ground by mcans of stones. To keep the levers in place upright, the spiral spriag, H, is applied, in the manner represented. Should the working becomo loose, the rods, C and F, can be adjusted by putting one of tho bolts into a new hole. The length of the rods and the arrangements are euch as to leave ground to be occupied during the operation by the horse and carriage. A cheap, neat gate of this kiad is made of three light bars of wood and quarter-inch wire, as represented in the engraving. The extra cost over an ordinary gate need not exceed $5. It wae was patented by John Dickason, an Eastern inventor, June 4th, 1867. Further particulars, models, county rights, etc., may be obtained of E. P. Hicks, the owner of the patent, or through C. W. M. Smith, Attorney. No. 526 Montgomery etreet; or C. H. Filbrick, model-maker, corner of Mission and Beale etreets, San Francisco, or Frisbie Hicks, Silverton, Marion Co., Oregoo. We may add that the gate is already in operation in many placee in San Francisco and San Mateo counties, and other localities around the bay. Mr. Hicke informs us that it is giving satisfaction everywhere.

THE author of "Todd's Student's Manual," revered of all collegians, is in San Francisco. That Dr. Todd should be a living persou instead of walking the Elysian groves in blessed companionship with Dante's deceased philosophers, is surely a pleasing circumstance to all who know him by his works, or who have ever made any use of his *Index Rerum*. That he should be so near to us as San Francisco, adds to surprise a degree of wouder that euch things can be, and the gold-dealing world's not making more of it. But we find ourselves carried instantaneously out of our associations with classic romance, and ancient philosophic grandeur, into reality—brought to the van of to-day, to the very point of civilization's moviag column, by the fact that Dr. Todd is also the author of a recent very sharp criticism on the woman's rights movement—which was itself quite sharply handled by Miss. Dodge (Gail Hamilton).

Columbia College School of Mines.

The catalogue of this very useful institution, for 1869, has been received. This is a first class school, equal in many respects, and superior in a few of its departments, to some of the most noted European mining academies. That it should fall short in other respects, independently of its situation at a distance from mining practice, is certainly not otherwise than could be expected—owing partly to the mercurialism of American character, which prevents many of our best men from settling down contentedly to such quiet duties as those of instruction, at a moderate compensation, while the mountains of the west are holding forth to them their golden prizes; and partly to the newness of the undertaking. In metallurgy and assaying the facilities offered are excellent, so far as the instruction is concerned—superior to Freiberg, indeed—results due to Mr. Egleston's energetic working. Another department which impresses the visitor most favorably is that of Geology and Paleontology, in the hands of John S. Newberry. Professor Newberry has arranged systematically, for the uses of his students, what must be, by this time, the best working cabinet in the United States, especially so for students interested in or from the western half of the continent. The enthusiasm and enterprise displayed by that gentleman in collecting, and determining, in connection with Pacific Railroad and other surveys, the fossils of our western rock formations, render his connection with the Columbia College School of Mines very advantageous to those who would devote themselves to our almost unworked, yet very promising field. In fossil plants especially, Professor Newberry has made himself the first authority, and his collection is unparalleled.

In mineralogy, the practical and working department thereof—the most important to students—is assigned to J. H. Caswell, who is also an enthusiast, and possessed of very thorough acquirements, in that specialty.

The catalogue for 1868-9 shows, in addition to the solitary graduate of 1867, a list of twenty graduates of 1868, half of whom are already engaged in the practice of their profession, while of the remaining half, two are in Europe, and four are employed as instructors. The students of the third year now number 17; those of the second year, 18; those of the first year, 17; preparatory students, 9; special students, 27; resident graduates, 5—total, 93.

The following, from the New York *Journal of Mining*, is pertinent:

One praiseworthy feature in the plan of tnition is the requirement that the students shall execute "projects" in the different departments of metallurgy and machinery. The proper method of preparing plans and estimates is not too commonly known among engineers—witness the partial and untrustworthy report of this kind embodied in many a mining prospectus. We hope the day will come when the assay of a piece of rock, and the loose statement of somebody that "there is plenty of it," that "it can be mined for almost nothing and reduced for less, leaving immense returns for the capital invested," will no longer be considered a basis upon which hundreds of thousands of dollars may be thrown away in blind speculation. One reason of this evil hitherto has been the inability of many engineers to make detailed estimates for mining operations; another and still stronger reason has been the ignorance of their value on the part of capitalists, and their consequent unwillingness to pay for thorough preliminary work of this kind. We have often said, and we continue to believe, that the increase in the number of competent engineers will work the necessary reform.

FIVE LITTLE ERRORS IN FOUR LINES, are perpetrated in the *Scientific American* of January 23d, in regard to "A New Silver Ore" from Mono Co., Cal.—the "parisite," discovered by "Dr. Paris," and aualized by "Prof. Arent," etc. This is the partzite, named after Prof. Partz of Oakland: $(Cu\ O, Ag\ O, Pb\ O\ Fe\ O)^3$, $Sb\ O^3$ x3 HO, according to the discoverer's analysis.

[From Rowlandson's "Earthquake Dangers, Causes, and Palliatives"—just published.]

Hardening of Mortar, Climatic Conditions, Etc.

[Continued from Page 306.]

THE ADHESIVE AND COHESIVE QUALITIES OF MORTARS, AND THE FLEXIBILITY OF MASONRY AND BRICK-WORK.—The *adhesion* of mortars and cements to stone or brick in a direction perpendicular to the faces of the joints of the work, is always much less, with ordinary materials, than the *cohesion* of the latter for equal sections; it therefore almost invariably happens that the lines of fracture in walls after earthquakes, whether in stone-work or brick-work, composed of good bricks, follows down or along a line of joints, producing a jagged or serrated fissure, the jaws or serrations depending upon the length of the bed of each block or brick, and the depth of the courses.

It has been found that the adhesion of Portland cement to Portland stone is 146 pounds per square inch, while the cohesion of the cement itself is 400 pounds ditto; and that of Parker cement to granite, 22 pounds, the cohesion of the cement being 300 pounds ditto.

The adhesion of common lime mortar varies enormously with the nature of its materials, the sort of stone or brick with which it is used as a cement, the thickness of the joints, the care taken to fill them effectually and solidly, the degree of wetness or dryness of the mortar itself, and of the stone or brick to which it is applied, the rate at which the mortar has been dried during its setting, and the amount of moisture and air to which it may have been subsequently exposed. All these conditions, or some of them, have been found sufficient to make a difference of absolute cohesion of more than 2.1, between old Roman mortar, consolidated and hardened for ages, and good modern mortar, allowed sufficient time to be viewed as fully set or indurated. In many cases, very dry mortar has been found much more brittle and easily fractured than when wet, even after complete induration has occurred.

The actual extent of elastic flexibility of stone and brick masonry, especially the former, is not commonly considerable; and unfortunately as yet no *precise* measures of these exist for any class of masonry. Were it not for this property, however, no building would stand even a moderate shock; and were the velocity of the wave confined within the limits of the velocity of the center of oscillation of the structure, considered as an elastic compound pendulum; whose time of vibration is due to the length of a simple pendulum equal to the hight of that center above the base, and were the amplitude of the shock within the limit of elastic displacement of the masonry, etc., at that center, no building would be thrown down.

A well constructed brick and mortar wall of thirty or forty years' induration and 40 feet in hight, unsupported, two bricks or 1.60 feet* in thickness, has been observed by Mr. Mallet, to vibrate nearly two feet transversely at the top, during a storm of wind, before it fell; and that not until after many oscillations had disintegrated some of the horizontal joints, and produced several vertical fractures.

The point of greatest flexion traversed along the length of the wall, as each oblique gust of wind impinged upon it, like the waves of a rope suspended at one end, and jerked transversely at the other.

An octagonal brick chimney stack, with a heavy granite capping 160 feet in hight above the ground, was instrumentally observed by Mr. Mallet to vibrate in a moderate gale of wind, when a few months built, nearly five inches at the top.

The above are illustrative of the extent of flexibility in good brick-work, which possesses that property in a far higher degree than other masonry; the bond of the mortar being better, the flexibility being greater, both in brick and thick mortar joints,—the latter being very numerous and the elasticity more nearly alike in both, than in stone masonry. When the joints are much fewer in proportion, the stone, relatively to the mortar, highly elastic and rigid, and the bond, so far as adhesion of the mortar is concerned, small, (in the case of many hard silicious stones, such as granite, almost *nil*) the result of this difference is, that well-built and indurated brick walls, when fractured, breaks indifferently, nearly through joints and bricks; but in stone walls the line of fracture is confined to the mortar joints, with rare exceptions the rigidity of the several blocks transferring the whole of the compressions and extensions due to the strains, to the mortar above. From this cause it was observed very uniformly throughout the earthquake region, that when a brick construction was superimposed upon stone-work, as is seen in Italian churches, the brick-work, although of so much less density, fell as one mass, with fractures of severance along the lines of junction of the two; and *vice versa* when the brick-work, as in a few cases, was beneath, and stone-work above; and when the latter was thrown, it did not push the brick-work over in its fall,—the latter remained comparatively unharmed.

*The English brick is 9x4½x3 inches.

The following tables will be found of great practical interest to the architect and builder:

RESISTANCE OF MATERIAL TO PRESSURE AND TENSION.

MATERIAL.	Weight in pounds per cubic foot—Sp. gr.	Pounds per square inch; resistance to pressure.	Pounds per square inch; resistance to tension.	Authority for Nos. 1 and 2.	Authority for Nos. 3.
Hard Brick	98	1851	206	Rondelet.	Gauthy (sur la construction des Ponts) and Hontelet (L'Art de Batier).
Soft, ill-burned brick	91	1200	133	"	
Mortar, lime and sand, unground	102	423	47	"	
Mortar, lime and sand, ground	109	577	64	"	
Naples, unground, of Rome and Mortar Pozzolano, of Rome and Naples, ground	92	503	56	"	
Mortar, old Roman (Campagna)	105	732	81	"	
Mortar, old French Bastile	97	1047	105	"	
Plaster of Paris (mean)	94	753	84	"	Laisne.
		500	55		

The few experiments made on the subject tend to show that the resistance of stones, etc., to tension, varies from one-eighth to one-tenth the resistance of the same material to compression. The third column, so far as bricks are concerned, was calculated at the mean of these data.

ADHERENT RESISTANCE OF MATERIAL.

MATERIAL.	Weight per cubic foot—sp. gr.	Resistance per sq. in.	Adhes't Resistance per sq. in.	AUTHORITY.
Granite to Portland Cement	164	.....	97	Treadgold.
Granite to Parker's Cement	164	.....	22	White Trans.
Kentish Rag and Parker's do	.....	.....	29	do.
Oolite and Parker's Cement	.....	.....	42	do.
Oolite to Portland Cement	.....	.....	146	do.
Mortar (sand, 3; lime, 1)	100 to 119	11 to 20	9.88	Bolsted and Gauthey, Treussard & Totten.
Mortar, green and fresh	.....	.....	.....	Bolsted, Gauthey, Treussard and Totten, Rondelet, do.
Mortar, ground lime and tiles	.....	2	.....	
Brick and Tile to Mortar	100 to 120	40 to 80	5.26	
Jurassic Limestone to Mortar	.....	.....	3.80	
Hydraulic Mortar	.....	.....	8.27	

In the above table, the cements had, in all cases, six months to indurate, and the mortars (except in the second case) from six to seventeen months' induration.

The limit of flexibility of stone masonry exposed to earthquake shocks depends, to an immense extent, upon the flatness and superficial area of the beds of the individual stones, and the completeness with which "breaking joint" and thorough bonding are preserved in the setting.

Where the masonry consisted of rounded, lumpy, quadrated ovoids, of soft limestone, as already mentioned in the general description of the poorer and older towns (such as Polla), the whole dislocation occurred through the enormously thick, ill-filled mortar joints; and almost all buildings thus formed fell together at the first movement in undistinguishable ruin. At Pertosa, a poor but more modern town, the class of masonry was a little better, and, it may be remarked, the ruin less complete.

When, as in a few examples observed, the masonry was of the best class (and such as would be so recognized in England), the buildings thus constructed stood absolutely uninjured in the midst of chaotic ruin.

As a striking illustration of the exception just alluded to, Mr. Mallet draws particular attention to the Campanile of Atena—a square tower, of about ninety feet in hight and twenty-two feet square at the base—in which there was not even a fissure, while all around was nearly prostrate. This tower was also aided hy iron chain bars, built in at each story. The great viaduct carrying the military road at Campostrina is adduced by the writer as another example of like character. He appends, also, the following remarks, which, owing to the strong parallel case which may he drawn between the effects of the great Neapolitan earthquake of 1857 and that of the 21st of October, 1868, at San Francisco, I now insert in small capitals:

"INDEED, IT WAS EVIDENT THAT HAD THE TOWNS GENERALLY BEEN SUBSTANTIALLY AND WELL BUILT, OR, RATHER, THE MATERIALS SCIENTIFICALLY PUT TOGETHER, VERY FEW BUILDINGS WOULD HAVE BEEN ACTUALLY SHAKEN DOWN, EVEN IN THOSE LOCALITIES WHERE THE SHOCKS WERE MOST VIOLENT AND THEIR DIRECTION THE MOST DESTRUCTIVE. THUS THE FRIGHTFUL LOSS OF LIFE AND LIMB WAS AS MUCH TO BE ATTRIBUTED TO THE IGNORANCE AND IMPERFECTION DISPLAYED IN THE DOMESTIC ARCHITECTURE OF THE PEOPLE AS TO THE UNHAPPY NATURAL CONDITION OF THEIR COUNTRY, AS RESPECTS EARTHQUAKES."

THE "CALIFORNIA NUTMEG."—The tree referred to as the "California nutmeg," in an item from the San Mateo *Gazette*, is the *Torreya Californica*, named after Prof. Torrey, and originally found in this State, a dozen or fifteen years ago, subsequently also in Florida and Japan. It is of the pine family,—a very different one from that of the true nutmeg. The fruit is aromatic, but somewhat of a turpentine nature, and the flavor is entirely different from that of the true nutmeg. The latter has a fleshy covering, and a hard seed inside. For a description of the *Torreya* see Pacific Railroad reports, under Newberry's notes. The Nevada *Gazette* says: "It seems there are two varieties of the tree, differing slightly in appearance and in the color of the fruit. In hight they vary from ten to twenty feet, and rarely exceed ten inches in diameter. Our informant states that he has used the nut as a substitute for nutmegs for a number of years past, and cannot detect any difference in the taste or quality of its flavor." Perhaps there is something in a name.

PERFUMES EXTRACTED FROM FLOWERS BY GLYCERINE.—The old method of extracting the more delicate perfumes was by means of fat, which absorbed the volatile oils, and whence they were dissolved out with alcohol. By the new plan, the flowers are introduced into a vessel filled with glycerine; and after some three weeks' time the glycerine is strained off. The odoriferous extract which it has taken up may easily be communicated to either water or oil.

Mechanical.

Welding Copper.—This has been difficult because the oxide formed is not fusible. But a salt containing free phosphoric acid renders it easily fusible. Mr. Rust experimented with microcosmic salt, which is a phosphate of soda and ammonia, and succeeded perfectly. A mixture of one part phosphate of soda and two parts boracic acid answers nearly as well, and is much cheaper. This welding powder should be strewn on the surface of the copper at a red heat; the pieces should then be heated up to a full cherry red or yellow heat, and brought immediately under the hammer, when they may be as readily welded as iron itself. For instance, it is possible to weld together a small rod of copper which has been broken; the ends should be beveled, laid on one another, seized by a pair of tongs, and placed, together with the latter, in the fire, and heated; the welding powder should then be strewn on the ends, which, after a further heating, may be welded so soundly as to bend and stretch as if they had never been broken. The greatest care must be taken that no charcoal or other solid carbon comes in contact with the points to be welded, as otherwise phosphide of copper would be formed, which would cover the surface of the copper and effectually prevent a weld.

Timber Beasts.—Under this head *The Engineer* describes the ingenious manner in which the quadrupeds that stock the thousands of "Noah's Arks" are made, in Saxony. The ridiculously low price at which these toys are sold, is now more easily accounted for. A block, in length equal to the hight of the intended image, is cut off from the end of a wooden cylinder. From this block a ring is turned, the various moldings of which make it resemble a circular picture frame. The forms of the moldings seem to be determined simply by the caprice of the workman at the lathe; but when finished, a section of the ring is a perfect outline of the particular beast desired. The whole ring is then cut up with a saw; every cut producing an image. Tails and horns are afterwards added where required.

Breaking of Rails in Cold Weather. Mr. Colburn's theory is that this is due, not so much to the non-elasticity of the sleepers, as has been generally supposed, as to the freezing of the moisture contained within the pores of the iron itself. In this connection he says: "It is a question how far the great expansion of zinc, tin, and lead, indeed of all the more fusible metals when heated, is due solely to their low cohesive resistance, or to the expansion of interstitial moisture acting against a comparatively small resistance."

To Horse Shoers.—The "frog," should never be cut. It is intended as a cushion and protection to the foot. Yet blacksmiths delight to cut it away, and keep an instrument on purpose. No man "who knows," will allow his horse to be meddled with by a shoer who uses that barbarous shovel-shaped knife, with which, braced against the shoulder, this important portion of the hoof is so ruthlessly slashed away by so many farriers.

Iron and Steel Crystals.—Mr. Schott, of Ilsenberg, has made many microscopical examinations of the structure of steel and iron. He maintains that "all crystals of iron are of the form of a double pyramid, the axis of which is variable, as compared with the size of the base. The crystals of the coarser kinds, as compared with those of the finest qualities of crystalline iron, are of about twice the hight. The more uniform the grain, the smaller the crystals, and the flatter the pyramids, which form each single element, the better is the quality, the greater is the cohesive force, and the finer the surface of the iron. These pyramids become flatter as the proportion of carbon contained in the steel decreases. Consequently, in cast iron and in the crudest kinds of hard steel the crystals approach more the cubical form, from which the octahedron proper is derived, and the opposite extreme or wrought iron has its pyramids flattened down to parallel surfaces or leaves, which in their arrangement produce what is called the fiber of the iron. The highest quality of steel has all its crystals in parallel positions, each crystal filling the interstices formed by the angular sides of its neighbors. The crystals stand with their axes in the direction of the pressure or percussive force exerted upon them in working, and consequently the fracture shows the sides or sharp corners of all the parallel crystals. In reality, good steel shows, when examined under the microscope, large groups of fine crystals like the points of needles—all arranged in the same direction and parallel."

Electro-Magnetic Marine Engines.—A correspondent of *The Engineer* has an idea that the galvanic action of salt water upon the sheathing of a vessel may be utilized toward the propulsion of the vessel. We quote sufficient to give an idea of his plan:

"A vessel to be fitted with an electro-magnetic engine attached to an ordinary screw shaft, is sheathed on one side with copper, and on the other side with zinc. The sheathing is laid on over sheets of gutta percha in order to insulate it from the woodwork of the vessel. The nails necessary for this purpose are driven in such a manner that they are nowhere in metallic contact with any part of the sheathing. The two sections of copper and zinc sheathing thus form a battery, acted upon and excited by salt water alone. The vessel being so sheathed, a wire from each section conducts the current to the electro-magnetic engine. In my first experiments I had a large magnet to work a keeper in connection with a crank in the usual way. Since then I have adopted a mode of multiplying the power enormously. Thus—the wires are connected with a thick, small-sized electro-magnet in the first instance. In front of its two poles an armature is made to rotate with great velocity, and the augmented current thus produced is carried to an arrangement of two very large magnets working reciprocally in such a way that the keeper, or soft iron beam between them, which works the crank axle of the screw, flows the current into each separately at every stroke, charging it just before the moment of contact. In fitting the above engine to a vessel the rotating armature working before the first magnet would have to be driven by a small steam engine."

"No-Pressure" Engines.—A correspondent of the *Artisan* says he is endeavoring to organize a company to carry on the business of making engines constructed upon the theory that "the lower the temperature the less vapor will fill the water-end of the cylinder, and the more readily it will be liquefied in the condenser, and so the quicker it will be returned to the boiler; and, as a result, any change either for *water* or *fuel*—any boiler strain, or capacity, beyond that which is required to gasify the charge of liquid resulting from the condensation of a cylinderful of steam—is so much *useless incumbrance*."

He says that "with an engine properly constructed, a two-thousand-ton steamer while crossing the Atlantic ocean will use less than one hogshead of water for the entire passage, with boiler weighing less than five hundred pounds, and with less than one-half of the same fuel the same trip would require with the old style boiler."

Water Wheels.—The usual velocity of the periphery of overshot and high breast wheels is from three to six feet per second; and their available efficiency when well designed and constructed is from 0·7 to 0·8 of the total power of the fall. The diameter of an overshot wheel must be a little less than the hight of fall of the water, and that of a high breast wheel somewhat greater.

Leakage in Tube-sheets.—Excessive leakage in the end of tubes is a sure sign of an accumulation of dirt behind the tube-plate; this dirt being first removed, the tubes can be made tight by judicious caulking; continual caulking is, however, very injurious to the tubes and plate, and whenever this fails, the ferule should be withdrawn and replaced by one slightly larger in diameter. *Am. Artisan.*

Metallic Ceilings.—A system of metallic ceilings, consisting in the application to the joisting of very thin, stamped ornamental panels, has lately been invented. They can be readily fitted to any kind of ornamentation or color.

Scientific Miscellany.

Birds of Vancouver Island.—Robert Brown, F.R.G.S., has contributed to "*The Ibis*" a synoptical list of the ornithology of Vancouver Island, having devoted over four years of time to that and kindred subjects, in the capacity of commander and government agent of the Vancouver Island, and botanist of the British Columbia, Exploring Expeditions, which have been doing very good service in extending our knowledge of the resources of the North. This list is intended mainly as a guide to collectors, of whom there are several deserving of very favorable mention; and has been published separately in pamphlet form. The character of the birds will be understood from the following summary:

	Tribes.	*Genera.*	*Species.*
1. Raptores (Robbers),	3	12	14
2. Scansores (Climbers)	1	4	6
3. Incessores (Perching)	17	51	66
4. Rasores (Scrapers)	3	5	5
5. Grallatores (Waders)	7	16	18
6. Natatores (Swimmers)	7	30	44
Total	38	118	153

To detect a false Diamond.—Professor Levi says the following method is infallible: Place the stone in a platinum crucible, with pulverized fluor spar, add concentrated sulphuric acid, and heat. When the vapors of hydrofluoric acid cease, allow it to cool. If the stone is found intact, it is a true diamond. Not otherwise; for if false, its silicon will have united with the hydrofluoric acid, and it will either disappear entirely, or be found extensively corroded.

Another German Polar Expedition.—The second German Expedition will probably leave Bremerhafen early in June. It will consist of two vessels, the Germania and the Grænland. The first is a screw steamer; the second a sailing yacht. This yacht will return before next winter, while the Germania will push on, and winter as far north as possible.

Phosphorus and Turpentine.—M. Personne has found that terebinthine, the principle of turpentine, is an antidote to phosphorus. It is remarkable that while this substance prevents the solution of phosphorus in the stomach, it also impedes its combustion in the air.

Velocity of the Electric Impulse.—The discordant results that have been arrived at by experimenters upon this subject, have been due to imperfect apparatus. Give the current a conductor that offers no resistance, or put on battery power enough to overcome the resistance,, and electricity will probably be found able to hold its own with light. As an evidence that an increase of battery force increases the speed may be instanced an experiment lately made by Prof. Hough, of Dudley Observatory. Over a circuit of 1,000 miles of wire, with 75 cups of battery upon one end and 45 cups at the other, he obtained a speed of 12,200 miles a second. By increasing the battery to 90 cups at one end and 75 cups at the other, he increased the velocity to 14,400 miles a second.—*The Telegrapher.*

Guano—New Theory.—The *Bulletin* of the Essex Institute, a new publication which is to take the place of the "Proceedings, etc." heretofore issued, gives in its first number some remarks made at a recent meeting of the Institute by Prof. A. M. Edwards upon the subject of guano. Prof. Edwards advances the theory that guano is not the droppings of birds, as has generally been supposed, but is the deposit of the remains of dead animal and vegetable matter at the bottom of the ocean, which, as the coast rose, had been so lifted as to appear on the crests of the islands formed, and from the chemical changes it had undergone, had become guano. Among other facts brought forward to prove his theory, he mentioned that an island had risen at the Chincha group, which contained guano on its summit at the time of its uprising. He also alluded to the fact that the droppings of birds would be quite inadequate to supply the vast amount of guano found, and that such droppings were chemically distinct from guano.

The Stars a Source of Heat.—Strange as it may seem, the stars furnish the earth an appreciable amount of heat. The London *News* says: "Mr. Huggins has just published the results of a series of inquiries addressed to the actual measurement of the heat which we receive from the leading brilliants of the nocturnal sky. The galvanometer was made use of in these investigations. The instrument was fixed by Mr. Huggins' large refractor, so that the image of a star formed by the eight-inch object glass might fall upon the surface of the thermopile. When the time came for making an observation, the shutter of the dome was opened, and the telescope was turned upon a part of the sky near to some bright star, but not actually under it. Then the needle was watched to determine whether the change of position had produced any effect. If, in four or five minutes, no signs of change were shown, the telescope was moved over the small distance necessary to bring the image of the star directly on the face of the pile. Almost always the needle began to move as soon as the image of the star fell upon it. The telescope was then moved slightly away again from the star; the needle was seen to return to its place. In this way from 12 to 20 observations would be made upon the same star, so that no doubt might remain as to the motion of the needle being really due to the star's heat. In this way, it was found that Arcturus moved the needle three degrees in a quarter of an hour. So did Regulus. Pollux gave a deflection of one and a half degrees; but, singularly enough, his twin brother, Castor, produced no effect at all upon the needle. The splendid Sirius gave deflection of only two degrees; but as this star is always low down, and shines through a greater proportion of the denser atmospheric strata, it is not surprising that its heat should not be proportioned to its brilliancy."

How to Preserve Algæ.—In the May number of the *American Naturalist*, Arthur M. Edwards describes a new method of preparing specimens of filamentous Algæ for the microscope. He makes a solution of chloride of soda in the following manner: A large excess of fresh chloride of lime is put in water. After being well stirred, it is allowed to settle; and to the clear liquid is added a concentrated solution of carbonate of soda,—common washing soda,—until the carbonate of lime ceases to be precipitated. The clear liquid resulting, is preserved in a well corked bottle, away from the light. In this solution the Alga is boiled for a few minutes; and after being thoroughly washed with distilled water, it is put in a bottle of water to which a few drops of creosote have been added. Weak spirits may be used instead; in which case, however, creosoted water is employed when the specimen is mounted for use. Instead of the chloride of soda thus prepared, the well known *Labarraque's Solution* may be used; but it is scarcely strong enough for some cases.

Glycerine for Preserving Specimens of Marine Animals.—Professor Verrill of Yale College uses glycerine for this purpose. He says that not only are the brilliant colors of the specimens perfectly preserved thereby, but the internal parts as well. Very heavy glycerine is used, and the specimens transferred to a fresh supply as fast as they give out water enough to weaken it in any great degree. Some of Prof. V's specimens, which were killed by immersion in alcohol, and the colors of which were thereby deadened, had their brilliancy completely restored by the glycerine. Some colors, however, are destroyed by alcohol. In such cases, it must not be used, but the specimen must be put at once into the glycerine.

Combinations of Acids with Alcohols. Berthelot, the eminent French chemist, makes a calculation of the number of combinations which may be made of acids with certain alcohols. He says, "if you give each compound, thus possible, a name, and allow a line for each name, and then print 100 lines on a page, and make volumes of 1,000 pages, and place a million volumes in a library, you would want 14,000 libraries to complete your catalogue."

Maturity of Wines.—Dr. Dupré, lecturer on chemistry at Westminster hospital, states in a paper, recently published, that pure natural wine may be considered to have arrived at maturity at the end of from five to twelve years. In that time, the slow chemical changes which bottled wine undergoes will have produced their best effect; and after that, "the wine no longer improves by keeping, except to the taste of a few would-be connoisseurs."

Inventions and Patents.

New Patents Issued to Pacific Coast Inventors.

From Official Reports to Dewey & Co., U. S. and Foreign Patent Agents and Publishers of the Mining and Scientific Press. Copies of any U S. Patent Claims furnished immediately for $1. Full copies of American or Foreign Patents can be obtained by telegraph or mail through this office.

For the Week Ending May 4th.

Stove Drum.—F. Stadter, Plattsmoutb, Nebraska.—89,698.

I claim the conical drum A, and spiral cone E on the shaft B, arranged and operating substantially as shown and described, for the purposes set forth.

Self-Discharging Blanket Ore Concentrator.—John M. Bryan, Lincoln, Cal. 89,734.

I claim, 1. The adjustable swinging frame B, rollers D, E, and G, canvas belt L, and tank K, the whole arranged substantially as and for the purpose herein described.

2. The frame B, rollers D, E, and G, and swinging bar N, in combination with the ratchet-wheel F and pawl *e*, the whole arranged to operate substantially as and for the purpose herein described.

3. Passing the pulps across a revolving canvas belt from side to side, substantially as described.

This invention relates to an improved conceutrator for separating sulphurets from the pulp or tailings, after it has passed tbrough the batteries, and consists in arranging a broad canvas, endless helt on rollers, and placing across the top of the blanket a third roller, whicb causes a depression in the top of tbe blanket. The rollers are arranged on a swinging frame and are operated hy a ratchet and pawl. The pawl is caused to engage tbe teeth of tbe ratchet hy the swinging of the frame. The pulp is fed upon tbe canvas at one side aud passes across it, leaving tbe sulphurets clinging to thc canvas, whence they are deposited in a trough hencatb.

This macbine was illustrated and fully described in our issue of January 16, 1868.

Seed Sower.—George H. Crocker, Marysville, assignor to himself and David L. Smitb, San Francisco, Cal.—89,739.

I claim, 1. The rock-shaft D and fingers *e e*, in combination with the peculiarly-constructed cam *h* and lever *l*, and the connecting-rod *n*, substantially as set forth.

2. The dctachable pole R, provided with the opening *r*, band X, and ring *v*, substantially as and for the purposes set forth.

This improved seed sower is more particularly desigued to be used for sowing grain which requires to be sown broadcast upon tbe field. Tbe advantages claimed for this over otber seed sowers are, First—Tbe grain can he dropped more evenly tban witb any other sower, on account of the peculiar arrangement for feeding the grain regularly, and preventing tbe openings through which it passes, from becoming clogged; and, Secondly—The cost of construction, which is redneed to a mere fraction of wbat is usually cbarged for aeed sowers. Tbis device can he readily attached to the Randall Rake, when desired, without any cbange in the construction of either, thus rendering the rake of douhle utility to farmers. With this implement it is claimed tbat a lad of twelve years can, hy first having the sower arranged, do all the work that is necessary for sowing and barrowing a field.

Divided Axle for Railway Cars.—David Brown Hunt, San Francisco, Cal.—89,767.

I claim the collar C, secured on the end of one part of the axle, in combination with the sleeve-piece B, secured to the other part of the axle as a means of keeping the divided axle together.

Propeller.—Alfred C. Loud, San Francisco, Cal.—89,777.

I claim a propelling-whcel, so constructed as to exert its propelling power against the water, by means of four or more rings, or rims *b b1 b2 b3*, arranged obliquely with reference to the shaft, and intersecting each other, as described.

Gang Plow.—Maurice Murphy, Vacaville, Cal.—89,788.

I claim, 1. In combination with the arm, or lever C, rigidly fixed upon the crank for raising the plow-frame, the adjustable connection of the crank E to the axle, by a polygonal pin and corresponding eye, substantially as and for the purpose set forth.

2. The low convexed share F, having the extended point *c*, and the eye, or socket H, constructed substantially as and for the purpose described.

3. The mold-boards J, when constructed with the surface curved, as described, and having the convexed edge *d*, substantially as herein described.

This invention relates to certain improvements in gang plows, and consists first, in so attaching tbe supporting frame of the plows to a bent or crank axle that the depth to whicb it is decided to cut on every piece of land is easily regulated, and varied from two to ten inches. It also consists in a novel construction of the share and mold-board, by whicb a mucb greater efficiency and ease in cuttiug and laying tbe furrows is attained. The first part of this invention consists in supporting the frame of the plows upon a crank axle, a suitable lever heing attached by which to raise and lower the same. The land wheel turns upon an axle which has a half crank, that has its eye made polygonal and fitting on a similarly formed pin, the nnmher of sides being determined so that the plows shall have three or more different levels on which to work. The share is constructed long and low, but convexed slightly above. The mold-hoard commences at the hase of the sbare, heing made considerahly narrower, and its lower edge is convexed or curved under, the curve gradually changing so as to be concave near tbe top. The standards are cast in such a manner as to he easily renewed when they wear.

Side-Hill Plow.—Ives Scoville and Hiram H. Scoville, Oakland, Cal.—89,796.

We claim, 1. The angularly-placed removable axes *a*, arms *b b* and *c c*, for clevating and lowcring the mold-boards, and holding their position, substantially as described.

2. The lever C, hooks *e e*, rod *g*, and bar *h*, operating in the slotted standard E and slots *i*, the whole arranged substantially as and for the purpose described.

3. The two plows A and B, operating independently of each other, and turning up against opposite sides of the bcam, and mounted on the angularly-placed axes *a a*, substantially as described.

Tbis inventiou is a modification of the class of plows known as side-hill plows, and consists in providing two mold-boards, one to be used to convert the implement into a right-hand plow, while the otber converts it into a left-hand plow. In this device, the mold-hoard, which is not in use, is turned up against the plow beam, on the opposite side from the plow to be used, and locked in tbat position by a lever, which operates a har that in turn locks tbe plow to be used in its proper position on the standard. It also embraces the attacbment of tbe handles of the plow to a metal har whicb rises from tbe rear of the landside. The plows are operated independently, and are mounted on sbafts whicb stand at an angle to each other. Eitber of the mold-boards can he removed, and thus leave tbe plow single.

Process of Removing Soluble Matter from Artificial Stone.—Edward T. Steen and William B. May, San Francisco, Cal.—89,805.

We claim purging soluble substances from artificial stone, in the manner substantially as above described.

This invention relates to a new and improved method or process for removing salt and otber soluble impurities from artificial stone, and more particularly from that known as Ransome's Concrete, for huilding and otber purposes.

Means for Hanging Window-Shades.—John I. Tay, San Francisco, Cal.—89,813.

I claim the combination and arrangement of the cords *b*, *n* and *n'*, the tension-spring *d*, and the rollers C, when applied to both ends of a curtain, so that the top may be rolled down, and the bottom rolled up, and each sustained at any desired hight, by means of the weights I I', substantially as described.

Tbe design of this invention is to provide an improved mode of hanging shades or curtains in front of windows. It consists in swinging tbe curtains in front of the windows hy means of cords which pass around the ends of rollers attached to each end of the sbade or curtain. The cords are so arranged tbat tbe curtains cau be raised or lowered at the hottom or top, as desired, hy simply adding to or relieving a weight attached to their ends.

Combination-Lock.—Ephraim Vorhe, San Francisco, Cal.—89,817.

I claim, 1. The combination of the stem *c'*, holding-plate *k'*, and socket-stem D, substantially as described.

2. The stop R1, with the catch *r*, the sliding-plate *r'*, and spring T, for holding and releasing the stop, substantially as and for the purpose herein described.

3. The tumblers N O P, with the lugs *n n n*, the arm *p*, the wheels Q R S T, and the lever Z, the whole operated from the knob E, for retreating the stop R1, substantially as described.

4. The device for controlling and operating the bolt, consisting of the rotating case V, the plate *u*, with its arms 1, 2, and 3, the spring V', the stems *k k*, and the key M, together with the slotted segment *w*, the whole connected and operated substantially as herein described.

This invention is a modification of that class of locks, known as combination locks, and generally used for hanks and safes. It consists, First—Of an improved manner of setting the tnmhlers and operating the bolt; and, Second—Of a stop for the holt, which is operated by a lever and a series of toothed wheels, whicb are in turn opcrated by an arm on the tumbler sbaft. The bolt is operated by an iudependent knob, having an opening into wbich a key of peculiar construction must be introduced. Tbis key presses back a numher of small arms, by means of spindles, so that tbey will move in grooves, in a circular arc, and thus allow the knob to he tnrned and the bolt moved. These toothed wheels are set before locking tbe safe, so that if tbe combination is not made correctly at the first trial, the stop will be forced out, and preveut tbe holt being moved. By means of tbe wheels and tbe lever before mentioned, tbe stop will be forced hack into its place, when a second trial can be made, and the bolt can be drawn, if the combination is correct. But if a second mistake is made, the stop cannot again he forced hack, till tbe last toothed wbeel has been turned half round, which would necessitate an immense numher of turns of the knoh.

For the Week Ending May 11th.

Buckle.—George W. Roland, Salem, Oregon.—90,026.

I claim, as a new article of manufacture, the clasp for securing harness or other straps, constructed substantially as specified and described.

California Academy of Sciences.

A regular meeting of the Academy took place on Monday evening, May 17th, hut was very slimly attended, owing to tbe absence of several active members on "collecting" excnrsions. H. Heyneman was elected a resident member.

Newer Geological Formations in Eastern Nevada.

Gregory Yale exhihited a picce of sandstone containing innumerable fossils, apparently of tertiary age, from the summit of a high mountain in easteru Nevada—he understood from Treasure Hill. In spots the sandstone was said to contain chloride of silver. One spot so marked was of sandstone in tbe inside of a mussel shell. He also donated a specimen of fossiliferous limestoue containing corals, from White Pine District. Also a copy of Raymond's Report on the Mines of the West of 1869, and a rare old map of Paris in 1778.

Henry Carlton described eigbt additional species of shells from near Autioch, collected by Mr. Rowell.

Tbe subject of raising funds to build, was again raised hy Mr. Yale. Members of tbe Academy, he said, represented some $3,000,000, most of which money had been made in this country. He thought it wonld he no difficult task to obtain $30,000 for huilding purposes.

Prof. Davidson stated that for tbe last fifteen years the Academy in Philadelphia had tried to raise $100,000 for a building, hut that tbey had not been able to obtain more than $20,000 of suhscriptions.

Mr. Yale was authorized to examine and report upon condition of the outside land which had heeu set apart hy the Board of Supervisors for tbe use and ownership of a scientific Society.

California Medical Gazette.—We acknowledge the receipt of the May number of this periodical from tbe puhlishers, Messrs. A. Roman & Co. It contains a number of original articles, hesides the usual selections from tbe current medical literature. Mauy of these selections are upon subjects which are of general interest to the reading public. We mean by tbis simply that they are less tecbnical in tbeir character, than tbose more especially prepared for the professional reader;—uot that the latter do not also concern the geueral public. On tbe contrary, we consider that every individual in tbe community is directly interested, and that deeply, in every good article that is published, relating to the progress of the ever-advancing, never-to-he-perfect, healing art,—and, consequently, in the support of every good medical journal; for it is only by the aid of such journals that tbe physician in active practice can keep himself "posted" in sucb progress, and be enabled to give the general public the benefit tbereof.

The Workshop, a montbly journal devoted to tbe progress of the mechanical and useful arts, has reached its second volume, with every indication of a prosperous future. This periodical is a German publication, issued in German, French and Englisb—the Americau agent heing E. Steiger, 17 North William street, New York. It is in quarto form, and gives descriptions and designs, profusely illustrated, for nearly all classes of trades; likewise illustrations of approved new machinery, and essays on style and art in the trades, etc., etc, The *Workshop* is a very valuable publication, and is offered at $5.40 per year (currency).

Company Transactions.

New Incorporations.

New articles of incorporation bave been filed, as reported in our exchanges during tbe past week, in the Conuty Clerk's office in this city, the Secretary of State's office at Sacramento, etc., as follows:

Mining Companies.

Clyde M. Co.—May 14th. White Pine. Capital stock, $400,000; 4,000 sharea. Trustees: J. B. Bidleman, E. Fitzgerald, A. J. Ellis and H. W. Schimp.

Keystone Consolidated M. Co.—May 14th. White Pine. Capital stock, $1,920,000; 19,200 sharea. Trustees: Robert Apple, N. Remillard, J. B. Gagnois, L. M. Beaudry, O. Lamarcbe, T. Lafleche, and C. Peter.

Meadow Valley M. Co.—May 14th. Meadow Valley, Nevada. Capital atock, $6,000,000; 60,000 sbares. Trustees: L. L. Rohinson, Henry A. Lyons, Lafayette Maynard, C. D. O'Sullivan, Delos Lake, Michael Skelley, D. J. Oliver, E. D. Keyes and J. T. Boyd.

Baltimore and Oregon M. Co.—May 17th. Gold Hill, Nevada. Capital stock, $2,500,000; 50,000 sbares. Trustees: G. B. Reeve, A. K. Grimm, G. W. Prescott, J. P. Jones and A. W. Baldwin.

Consolidation M. Co.—May 17tb. Reveille District, Nevada. Capital stock, $2,000,000; 20,000 shares. Trustees: J. B. Harman, F. G. Smith, C. S. Smith, W. T. King and C. J. King.

Mammoth Cave M. Co.—May 15tb. Wbite Pine. Capital stock, $2,000,000. Trustees: W. K. Dietrich, J. E. Foye, H. C. Coulson, C. V. Chesley, J. H. Gager, G. A. Ball and A. Buswell.

Miscellaneous.

Iron Molders' Co-operative Association.—Object: The manufacture of machinery and tbe carrying on of a general fouudry husiness. Capital stock, $250,000; 10,000 shares. Trustees: Dennis R. Manning, G. Pentington, Henry Wehb, W. Franey and T. Mitchell.

Sanct Paulus Kirchen-Verein of the City of San Francisco.—Sacramento, May 15th. Capital stock, $30,000.

Seventy-Five Dollar Lot H. A.—Tract of eighty acres of land situated on the San José Railroad, near School-House Station. Capital stock, $72,000. Trustees: Milton S. Latham, Gustave Mahe, Eugene L. Sullivan, W. B. Johnson and J. C. Duncan.

Meetings, Elections, Etc.

Mining.

Etna S. M. Co.—S. F., May 16th. Trustees: John Nightingale, John Gillig, James O'Neil, J. Pritchard and Peleg Bumpus.

Edith S. M. Co.—S. F., May 16tb. Trustees: R. E. Sherwood, John Nightingale, James O'Neil, J. D. Littlefield and John Gillig.

Rising Star M. Co.—S. F., May 16tb. Trustees: The President, M. J. McDonald, Lloyd Tevis and Thomas Bell.

Ion M. Co.—S. F., May 17tb. Trustees: Peter Taylor, W. K. Dietrich, H. Casanova, A. W. Perley, W. W. Merrihew. Subsequently Peter Taylor was chosen President; W. K. Dietricb, Treasurer; G. A. Ball, Secretary.

Tecumseh G. S. & C. M. Co.—S. F., May 19th: President, J. G. W. Schulte; Treasurer, M. Fenstermacber; Secretary, W. H. Mosher.

Gold Hill Miners' Union.—Virginia City. Trustees: A. T. Atkinson, Daniel M. Gloster, Tbomas Kelly and John Miller. T. A. Atkinson, President; Daniel Gloster and Thomas Kelly, Secretaries.

Homesteads.

Noe Garden Homestead Union.—S. F., May 14th. President, George Cofran; Secretary, John S. Luty; Treasurer, Nathan Atkinson; Directors: R. P. Franklin, W. R. McKee, Robert Mayers, Geo. S. Crim, J. P. Allen, W. G. Doolittle and John W. Quick.

Paul Reservation H. A.—S. F., May 19th. Officers: C. D. Wheat, W. D. Doolittle, Jobu Henderson, Jr., W. G. Finch, A. C. Morse, W. A. Robertson and H. D. Sbelden.

Miscellaneous Enterprises.

McMinnville (Oregon) Water and Manufacturing Co.—McMinnville, May 12th. Board of Directors: W. Townley, N. L. Strange, I. M. Johns, W. L. Olney, and J. F. Bewley. President, W. T. Newberry.

Ellendale Woolen Manuf'g Co.—Ellendale, Oregon, May 8th. Directors: R. P. Boise, — Levins and Ben. Simpson. Judge Boise, President; and Judge Moore, Secretary.

Stock Review.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, May 22, 1869.

Financial.

From the Commercial Herald we take the following:—Our local money market is working with almost accustomed regularity and ease, as—for the purposes of legitimate business—there is no difficulty in obtaining accommodation needed at 1¼ ₱ cent. per month; but loans for speculative objects hang fire. There is a strong disposition evinced to quash all movements in that line unless they are based on solid foundations. The savings and loan societies are making no loans at present. The number of homestead associations is so great, and the inducements they put forth to invest in lots are so captivating, that tens of thousands of dollars are weekly absorbed by them. The fever has got entire control of nearly the whole laboring population, who place most of their surplus earnings in lands instead of the usual public depositories. Large sums are also expended for the prosecution of extensive improvements going on all over the city; but the drain for prosecuting work on the Central Pacific Railroad will soon stop.

The Pacific Railroad affords increased freight accommodations since the urgent requirement for railroad materials has been greatly diminished. This city will soon experience a rush of visitors from the East, especially as the year has so far advanced that traveling unites pleasure with business. The time has at length come when the understandings of Eastern people will be enlightened relative to the Pacific slope, a matter upon which millions have been greatly ignorant despite the perpetual lessons and unceasing teachings placed directly under their eyes. We anticipate a new and brisk trade in many articles so soon as the Pacific Railroad shall be placed in complete order for fast express trains, and the rates reduced to the lowest paying figure. Fresh fruits, vegetables, salmon, etc., will some day find their way from this city to Chicago, Cincinnati, St. Louis, New York, and other Atlantic cities, which will give us return supplies of oysters, etc. We shall furnish all the goods imported from ports in the Pacific and Indian Ocean and China Sea, while those imported from countries washed by the Atlantic and Mediterranean will be furnished from the other side to all interior points.

We tender our acknowledgments to Mr. J. M. Good for the official Public Debt Statements for April and May, from which we condense the following:

	May.	*April.*
Coin Debt	$2,107,858,700	$2,107,876,650
Currency Debt	67,240,000	68,695,000
Unpresented Matured Debt	5,241,314	6,063,403
Debt Bearing no Interest	407,721,368	414,413,485
Total Principal Outstanding	$2,583,541,382	$2,596,998,538
Accrued Interest	46,491,506	39,305,917
Total, Principal and Interest	$2,635,032,888	$2,636,202,455
Cash in Treasury	116,235,497	111,005,994
Debt less Cash on hand	$2,518,797,391	$2,525,196,461

The decrease during the month of April was $6,399,070. This is a very gratifying result. The amount of $3,296,790, in the shape of interest, was paid in advance. The total amount of bonds issued in favor of the Pacific Railroad and its Branches is $56,852,320, all of them payable in 30 years from dates. The amount of interest accrued and not paid is $1,130,368, and the amount paid by the United States is $3,310,053, of which $1,380,438 has been repaid by transportation of mails, troops, etc. The balance of interest due the United States is $3,059,983.

City Stocks.

During the past week transactions in securities other than mining stocks have been very limited; in fact, it is quite difficult to realize upon them under any circumstances, in view of the present stringent condition of financial affairs in this market. No note sales of San Francisco Gas stock at $83@82, and Spring Valley Water at $66 per share.

Mining Share Market.

During the week under review the mining share market has been characterized by a good degree of activity, with large sales of a number of prominent stocks, though the tendency as regards most of the leading stocks has been towards lower values. The bullion production continues very fair, and what is at present lost by the unproductive condition of the Gold Hill mines, is more than made up by the bullion receipts from the White Pine region, which is rapidly assuming a position of great importance in the production of the precious metals, and so soon as the mill facilities are increased, will astonish the world.

Hale & Norcross—sold at a very uniform rate during the period under review. The ore statement for the week ending May 15th, shows a yield of 1,019¾ tons from the following points: 175 level, 89; third station, 114¾; fourth station, 514½; fifth station, 301½ tons. During the same period, they delivered to the mills 899¼, leaving on hand 1,043 tons. On the 18th inst., four bars valued at $7,103 were sent forward to the office in this city, being the first shipment of bullion on May account from the French mill. In the upper mine the drift on the 300 level has reached the vein. The north drift on the fifth floor of the 175 level, which is being run into the barren portion of the mine, struck good ore on the 17th inst., the average assays showing $81 93 to the ton, and thus far the drift has penetrated the ore a distance of seven feet. In the fifth level they are continuing the north and south drifts, but owing to the swelling of the ground and the heavy clay walls in both drifts, they are progressing slowly. The various breasts throughout the mine look favorable, and show no particular change from previous reports.

Imperial—shows a very general improvement over transactions of the previous week. To date for the current month $12,831 in bullion has been received. On the 21st inst., the work of sinking the shaft had been done to the extent of seven feet, and continued to carry the east clay. With regard to this work, the Gold Hill *News* remarks: The Imperial and Empire companies are now sinking their new shaft deeper. The pump is cleaned out and the shaft and other arrangements put in order for the purpose. The shaft is 1,104 feet deep, and the bottom of it is just cutting the east clay wall of the old Comstock. As the known dip or inclination of the ledge—45 degrees—is maintained at that point it will take at least 200 feet of perpendicular sinking in order to reach the west wall. Within that distance some good bodies of ore must certainly be encountered, and most probably that demonstrated to exist at the lower levels of the Yellow Jacket which tends in that direction. At the 1,000 and the 1,080 (generally designated as 1,100) levels from this shaft the ledge has been pretty thoroughly explored between the east and west walls, and nothing found more encouraging than harren quartz and porphyry, therefore it is about high time that deeper sinking was done. In no other possible way could the ledge be prospected so thoroughly or to so good advantage at that point as in sinking straight down through it, thus literally prospecting it in all directions at once. The machinery of the hoisting works at the surface is amply powerful and sufficient to carry the shaft to the depth of 1,500 feet, and we certainly hope the trustees of the company will have the good sense to keep the shaft sinking until ore, chloride or lava is struck.

Chollar-Potosi—exhibits a material advance under very considerable sales. For the week ending May 14th, 1,460 tons of ore were extracted, and 1,462 tons sent to the enstom mills for reduction. The ore found in the Blue Wing stope shows an improvement and an increased amount was extracted for the period under review. This is also the case with the New Tunnel deposit, which promises well for the future, owing to the ore making north from a point that has been barren. In raising from the track floor in the southwest drift samples taken indiscriminately give an average assay value of $120 per ton. Nothing encouraging from the new shaft. Four mills are now employed by this company.

Gould & Curry—declined from the prices ruling early in the week, under limited sales. They have stopped sinking, and are now thoroughly timbering the shaft prior to opening a station at a point twenty-five feet from the bottom, from which they will drift eastward.

Yellow Jacket, Kentuck and Crown Point have been in the market to a more than usual extent, particularly Yellow Jacket, and at prices somewhat less than were obtained early in the week. The Yellow Jacket is being worked as usual, and operations will soon be fully resumed in the other claims.

On the 12th inst., the drift from the Ophir shaft had attained a distance of 298 feet. An assessment of $3 per share was levied by this company on the 18th inst.... Overman levied an assessment of $20 per share on the 15th inst. .... Justice and Independence, on the 10th of May, levied an assessment of $5 per share.... Pocohillo (White Pine) levied its first assessment, amounting to $1 per share, on the 17th instant.

The Aurora Consolidated (White Pine) yesterday commenced the shipment of fifty tons of ore, says the *News* of the 13th, taken from the Last Chance shaft, to Staple's new mill below Shermantown. It is to be run through on the wet crushing plan, and mainly for the purpose of testing the practicability of reducing the ores of this district by that process. In the event that the experiment is a success, the new mill will probably be kept constantly employed on the same character of ore from the Aurora Consolidated, there being thousands of tons stacked up and awaiting shipment about the several shafts of this company.

We have received from Dewey & Co., Publishers and Patent Agents, a pamphlet entitled "A Treatise on Earthquake Dangers, Causes and Palliatives" by Thos. Rowlandson, Fellow of the Geological Society, London, and late Secretary of the Joint Committee on Earthquake Topics. The work was issued from the press of Spaulding & Barto, in handsome style. We have no room for a more extended notice in this issue, but commend it to all interested in earthquake phenomena, and who is not?

Price, 50 cents, postage paid. Address Dewey & Co., Mining and Scientific Press.

Red Currants and cherries have appeared in the San Francisco market; prices 40 cts, cherries from 15 to 75 cents per lb. Strawberries are 7 to 10 cts.

Weekly Shareholders' Directory, for Meetings, Assessments and Dividends.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale
Amador Co., div. $10 per share	Payable May 5, 1869	
Adriatic, Storey co., April 20, $1	May 22	June 7
Alpha Cons, Storey co., Nev., div. $2	Pay. June 19, 1868	
Alpha Cons, Storey co., Nev.	Annual Meeting June 21	
Accidental, White Pine, March 30, 25c	April 30	May 30
Belcher, Storey co., Nev., May 4, $5	June 5	June 24
Bullion, White Pine, April 14, 5c	May 29	June 14*
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Bullion, Storey co, Nev., March 21	Payable immediately	
Bowden, White Pine	Annual Meeting May 21	
Bromide Flat, White Pine	Annual Meeting June 1	
Cons. Virginia, White Pine, April 14, $1 50	May 19	June 5
Conner, preferred stock, Nov. 1¼ per cent.	May 10, 1869	
Confidence, Storey co., Nev., May 4, $10	June 9	June 30
Cherokee Flat, Butte co, May 1, $5	June 3	June 24
Capital, White Pine, April 19, 10c	May 17	May 31*
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12, 1868	
Crown Point, Storey co., Nev.	Annual Meeting June 7	
Cayuga Chief, White Pine, May 13, 5c	June 17	July 3
Douglas, White Pine, May 6, 12½c	June 8	June 21*
Dios Padre, Mexico, April 29, $6	May 31	June 21*
Diamond	Annual Meeting May 28	
Eureka, div. $10	Payable May 10, 1869	
Empire M. & M., Nev., dividend $6.	Payable May 15, 1867	
Elma, White Pine, May 12, 10c	June 17	July 7
Edith, White Pine, May 12, 10c	June 17	July 7
French, White Pine, May 4, 5c	June 7	June 28*
Fogus, Amador co., April 23, $5	May 29	June 18
Gold Hill Q., Storey co., May 13, $20	June 18	July 9
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 18, 1868	
Golden Charlot, Idaho, div. $2.50	Payable March 20, 1869	
Golden Rule, Tuolumne co, div. 50c	Pay. April 7, 1869	
Great Union Tunnel	Annual Meeting May 5	
Halo & Norcross, div. $6	May 10, 1869	
Hope Gravel, Nevada co, April 6, $1	May 10	May 31
Hope Gravel, Nevada co	Annual Meeting May 27	
Hearst, White Pine	Annual Meeting June 7	
Imperial, Storey co., Nev., div.	Payable June 20, 1868	
IXL, Alpine co., May 10, $1 50	June 26	July 14*
Keystone, Sierra co., div., $32	Payable May 6, 1869	
Kentuck, div., $20 per share	Payable Jan. 10, 1869	
Lexington, White Pine, April 28, 25c	June 3	June 23
Lettia & Poole, White Pine, April 23, 20c	May 31	June 21
Marlborough, White Pine, May 4, 5c	June 7	June 28*
Mocking Bird, White Pine, April 15, 10c	May 20	June 7
Morning Star, Alpine co., May 11	June 21	July 12
Maxwell, Amador co., May 15, $1	June 15	July 15
Mammoth	Annual Meeting June 3	
Nuestra Senora de Guadalupe, May 12, $2	Del. June 16*	
North Star, dividend, $5	Payable May 15, 1868	
North Star, White Pine, May 12, 7½c	June 18	July 17
North Bloomfield, Nev. co, May 15, $1 50	June 19	July 5
Occidental, div. $2	Payable March 2, 1869	
Quail Hill, Calaveras co., April 2, $10	May 11	May 31
Overman, Storey co., Nev., May 15, $20	June 18	July 3
Ophir, Storey co., Nev., May 18, $3	June 21	July 6
Phœnix	Annual Meeting May 25	
Phœnix, White Pine, April 27, 25c	May 27	June 26
Pacific Unassessable, div.	Payable June 18, 1868	
Pocohillo, White Pine, May 17, $1	June 24	July 15
Bathbun, White Pine, April 19, $1	May 25	June 14
Savage, Virginia, Nev, dividend, $4	Payable May 11, 1869	
Sand Springs Salt, Virginia, div., $1	Payable May 5, 1869	
Siempre Viva, Mex., April 15, $1	May 21	June 7*
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
Sand Spring Salt, dividend $1	Payable Jan 5, 1869	
Senator, Storey co., Nev., March 26, 50c	May 1	May 28*
Silver Sprout, Invo co, March 25, 50c	May 1	May 28*
Silver Eagle, White Pine, Annual Meeting	June 3	
Troy Ledge, White Pine, March 16, 15c	April 23	May 24*
White Pine Water, Lander co., April 14, $50	May 22	June 19
Virginia Cons., Storey co., April 14, $1.50	May 19	June 5
Virginia & G. H. Water Co.	Dividend, payable April 16, 1869	
Yellow Jacket, div., $5	Payable March 15, 1869	

Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

[S. F. Stock and Exchange Board

Friday Evening, May 21, 1869.

Miscellaneous Stocks.	*Bid.*	*Asked.*
United States Bonds, 5 20s, 1865, '67, '68	$ 81	82
United States Bonds, 5 20s, 1864	—	—
United States Bonds, 5 20s, 1862	—	—
Legal Tender Notes	70¾	70¾
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par	& Int.
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	83	87½
San Francisco School Bonds, 10s, 1868	100	—
San Francisco School Bonds, 10s, 1861	par	& Int.
San Francisco City and Co. Sch'l B'ds, 7s, 1866	—	90
San Francisco City and Co. Bonds, 7s, 1862	—	90
San Francisco City and Co. Bonds, 7s, 1864	—	90
San Francisco City and Co Bonds, 7s, 1865	—	90
San Francisco City and Co. Jud. Bds. 7s, 1863	—	90
San Francisco City and Co. Judg. Bds, 7s, 1864	—	90
Sacramento City Bonds	80	—
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	80	85
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1850	75	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	60	65
Spring Valley Water Co	66	66½
State Telegraph Co	25	—
Gas Companies.		
San Francisco Gas Co	—	—
Sacramento Gas Co	52	53
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	72½	—
Central Railroad	50	—
North Beach and Mission Railroad	70	—
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97¾	100
The Bank of California	157	160
Insurance Companies.		
People's Insurance Company	100	—
Firemans' Fund Insurance Co	98	100
Pacific Insurance Co	122	123
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	98	100
Home Mutual Insurance Co	19¼	20
Occidental Insurance Co	85	90
Mining Stocks—Washoe District.		
Alpha	33	34
Baltimore American	—	—
Belcher	21½	22
Bullion, G. H	21	22
Crown Point	68	68
Cole (Va.)	9	10
Confidence	33	35
Consolidated Virginia	7	10
Chollar-Potosi	295	300
Dancy	2¼	3½
Exchequer	16	17
Empire Mill and Mining Co	68	75
Gould & Curry	111	115
Gold Hill Quartz	37½	50
Hale & Norcross	175	176
Imperial	105	110
Julia	3	3¼
Justice and Independent	7	10
Kentuck	257	258
Lady Bryan	20	21
American	40	40¾
Occidental	24	25
Ophir	25	26
Overman	90	92
Segregated Belcher	9½	10
Savage	106	107
Sierra Nevada	57	58
Union	—	—
United States	—	—
Yellow Jacket	74	76
Miscellaneous Mining Stocks.		
Amador (California)	270	280
Aurora, White Pine	—	25
Eureka, (California)	225	235
Golden Chariot (Idaho)	42½	45
Silver Cord (Idaho)	7	—
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocohillo, White Pine	10	—

San Francisco Market Rates.

Wholesale Prices.

Friday, May 21, 1869.

Flour, Extra, ₱ bbl	$4 75	@	$5 25
Do. Superfine	4 25	@	4 50
Corn Meal, ₱ 100 lbs	2 00	@	2 25
Wheat, ₱ 100 lbs	1 25	@	1 55
Oats, ₱ 100 lbs	1 25	@	1 75
Barley, ₱ 100 lbs	1 40	@	1 80
Beans, ₱ 100 lbs	5 00	@	7 00
Potatoes, ₱ 100 lbs	65	@	80
Hay, ₱ ton	9 00	@	16 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	7	@	9
Sheep, on foot	2 50	@	3 00
Hogs, on foot, ₱ lb	6	@	7
Hogs, dressed, ₱ lb	9	@	10
Groceries, etc.			
Sugar, crushed, ₱ lb	14	@	15
Do. China	10	@	—
Coffee, Costa Rica, ₱ lb	19	@	20
Do. Rio	18	@	19
Tea, Japan, ₱ lb	76	@	90
Do. Green	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	10
China Rice, ₱ lb	6	@	6¼
Coal Oil, ₱ gallon	—	@	45½
Candles, ₱ lb	16	@	18
Ranch Butter, ₱ lb	33	@	37½
Isthmus Butter, ₱ lb	32½	@	35
Cheese, California, ₱ lb	15	@	18
Eggs, ₱ dozen	35	@	42½
Lard, ₱ lb	16	@	16
Ham and Bacon, ₱ lb	14	@	15
Shoulders, ₱ lb	7	@	8
Retail Prices.			
Butter, California, fresh, ₱ lb	45	@	60
do. Pickled, ₱ lb	30	@	—
do. Oregon, ₱ lb	20	@	25
do. New York, ₱ lb	35	@	40
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	35	@	35
Lard, ₱ lb	16	@	18
Hams and Bacon, ₱ lb	20	@	25
Cranberries, ₱ gallon	1 00	@	1 25
Potatoes, ₱ lb	1½	@	2
Potatoes, Sweet, ₱ lb	5	@	6
Tomatoes, ₱ lb	3	@	—
Onions, ₱ lb	8	@	10
Apples, ₱ lb	4	@	6
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	10	@	12
Peaches, dried, ₱ lb	10	@	12
Oranges, ₱ dozen	50	@	60
Lemons, ₱ dozen	50	@	75
Chickens, apiece	76	@	1 00
Turkeys, ₱ lb	30	@	35
Soap, Pale and C. O	7	@	12
Soap, Castile, ₱ lb	18	@	20

San Francisco Metal Market.

Prices for Invoices.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, May 21, 1869.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¼c ₱ lb			
Scotch and English Pig Iron ₱ ton	$45 00	@	$47 50
White Pig ₱ ton	36 00	@	37 00
Refined Bar, bad assortment ₱ lb	— 03	@	—
Refined Bar, good assortment, ₱ lb	— 04	@	—
Boiler, No. 1 to 4	— 04½	@	—
Plate, No. 6 to 9	— —	@	04¼
Sheet, No. 10 to 13	— 04½	@	5
Sheet, No. 14 to 20	— 05	@	5½
Sheet, No. 24 to 27	— 05	@	6½
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb			
Sheathing, ₱ lb	— —	@	26
Sheathing, Yellow	— 20	@	21
Sheathing, Old Yellow	— 10	@	11
Composition Nails	— 20	@	22
Composition Bolts	— 21	@	22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.			
Plates, Charcoal, IX, ₱ box	12 50	@	—
Plates, C Charcoal	— —	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs, ₱ lb	— —	@	35
Steel.—English Cast Steel, ₱ lb	— —	@	15
Quicksilver, ₱ lb	— 55	@	60
Lead.—Pig, ₱ lb	7½	@	8
Sheet	— 10	@	—
Pipe	— 11	@	—
Bar	— 9	@	9½
Zinc.—Sheets, ₱ lb	10½	@	11
Borax.—California, ₱ lb	— 35	@	38

New York Copper Market.—Winterhoff's Metal Circular of May 5th says that for the previous month copper advanced gradually under a fair demand for consumption from 23¼c to 24c for Lake. At this price between 4,000,000 and 5,000,000 pounds have been sold for summer delivery. As high as 24¼c has been paid for deliveries in June and July. A few export orders are in market, and sales for Europe have been made at 23⅞c for Tennessee and 24¼c for Detroit. On the other hand, 100 tons Quincy had arrived from Havre. The London market is improving.

Two World-Wide Triumphs.—It is seldom that one firm is fortunate enough to introduce two staple articles in widely different branches, each of which takes the lead of all others of its class in the markets of the world. This, however, has undoubtedly been the case with Messrs. P. H. Drake & Co., the celebrated chemists and pharmaceutists. Their Plantation Bitters are rated everywhere as the true specific for dyspepsia, biliousness, general debility, loss of appetite and flesh, hypochondria, chills and fever, and lack of vital power and constitutional vigor in both sexes; while their Magnolia Water is the only floral essence that has ever competed successfully for the palm of supremacy with the German Eau de Cologne, of which it is only about half the price. ***

The attention of our readers is called to the card of Dr. Hall, who has just returned from Europe, and had an opportunity of consulting, as will be seen, with many of the most eminent physicians of the world, from whom he was enabled to add much to his store of knowledge, in regard to the treatment of a large class of diseases. ***

The Brazilian Pebble Spectacles purchased at C. Muller, 205 Montgomery street, cannot be surpassed by anything in this line. *

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

PENNSYLVANIA.—*Chronicle*, May 8th: The south drift is in about 40 feet, and the north drift about 50. As soon as they get in 50 feet the ledge will be cut through in both drifts. The ledge is eight feet wide and widening in the north drift. The company is making arrangements for the erection of a mill.

TARSHISH.—Workmen are cleaning out the mine preparatory to the commencement of active operations. N. Graff, the late Superintendent, has been sent for to take charge.

AMADOR COUNTY.

POTOSI.—*Ledger*, May 15th: This mine, located at Drytown, has been purchased by Henry Hinkson and sons, and is now being worked by them. They have recently taken out some very rich rock.

BUTTE COUNTY.

Oroville *Record*, May 15th: Henry White and others are opening a claim on the bluff above that worked by Mr. Heuitt. It is to be a flume extending from the river across the upper end of Montgomery street to the bluff. In both these claims the miners in early days had washed out huge excavations, and worked out different strata of earth; but it has been demonstrated that the hydraulic will prove profitable wherever it can be used in these abandoned grounds. There is room for more claims of the same kind, and we hope to see them in operation soon. Crozier Hill will afford about 100 feet fall, and contains an immense amount of pay dirt.

A correspondent informs us that the quartz mills around Stringtown are progressing finely.

CALAVERAS COUNTY.

RAILROAN FLAT.—*Chronicle*, May 15th: Chapman & Co. are crushing 200 tons of quartz in Smart's mill. It yields an average of $60 per ton.....Sanderson & Co. have out about 150 tons of rock. They will commence crushing as soon as Smart's mill is disengaged.....Work is progressing favorably on the Petticoat. They are making a hole in it as fast as possible....The Lewis Bros. are taking rock from their claim in Wet Gulch, which for richness, beats anything we ever saw. The lead is three feet in width, and shows free gold throughout its whole extent. Having sunk a shaft to the water level, they are now engaged in running a tunnel, which, when completed, will tap the vein at the depth of 200 feet.....The Palomo hoisting works will be ready to commence operations next week....Alexander & Co's mill is kept constantly at work. While others are trying experiments, they are ponuding out metal.

ANGELS.—Three mills are running. Mining interests never looked more favorably than at present.....In the Washington Ranch District several claims are paying well; arastras being used instead of stamp mills. The leads are large and well defined, and the ore yields from $25 to $50 per ton.

Gravel mining appears to be reviving. A great deal of ground which did not yield sufficiently to satisfy the exalted ideas of miners in earlier days, is being worked with profit. New districts are being made. Among the prominent companies in this vicinity we might mention Brackett & Co., Shaw, Hatfield & Co., Paul & Co., Golden Gate Mining Co., Martin & Co., Fields & Co., and Gleason & Co., all of whom are working large numbers of hands and doing well.

The Union Shaft Co. are gaining on the water in their mine.

IRON ORE.—Dr. Hepburn has shown us some samples of valnable iron ore, discovered on the ranch of J. K. Doak, five miles from this place. The ore contains 60 per cent. iron. The lode is large and can be traced for a considerable distance. On the hill is a bold outcrop of the ore, showing a width of 40 feet. Half a mile from this, a shaft has been sunk on the vein ten feet, showing a compact mass of ore ten feet wide. The best of hard wood for charcoal stands immediately round. Within 200 yards of a furnace site is a quarry of excellent limestone.

KERN COUNTY.

SAGELAND.—Havilah Correspondence Visalia *Delta* of May 12th: The Piute mine, owned by C. K. Hotaling and others, near Kelso Canon, has a shaft sunk upon it about 300 feet. But it has been idle since last year, and it is not certain when work will be resumed. The shaft shows a ledge from 3 to 6 feet from top to bottom, and will pay, on an average $10 per ton.

The Gold Hill Company have a ten-stamp mill at Sageland, which has been idle since last fall. The St. John Mining Company is superintended by the owner, Mr. Walker. I can give you the result of ten stamps' working for the past eight days (12 hours each) which was within a trifle of $3,500, and there is plenty more rock of the same sort.

KELSO VALLEY.—The Esperanza Company purchased the Wolfskill mill at Agua Calienta last Autumn, and placed it in such a position that the rock is dumped directly from the mine. They have plenty of rock, and it has averaged $20 per ton. The mill consists of five stamps : five more will soon he added.

KERNVILLE.—Elsworth & DeLand, and Wadleigh & Hntton will start up soon.

The Mammoth Mill, at Keysville, and the Long Tom, on the other side of the Greenhorn Mountain, owned by G. D. Roberts, are not worked, but why, it is hard to tell, unless it is White Pine on the brain.

LOS ANGELES COUNTY.

SOLEDAD MINES.—*News*, May 8th: Jas. A. Hayward, arrived from Soledad on Saturday, bringing 73½ ounces of gold bullion, the product of a seven days' run of a five-stamp mill. Five additional stamps will be running in a few days and a new pan will be plaeed in the mill for saving the gold. The Eureka mine has a shaft 135 ft. deep, and a fine ledge of rich rock. Other mines in the vicinity are looking well. A new mine called the Champion is said to be very rich.

NEVADA COUNTY.

NORTH STAR.—*Gazette*, May 12th: Mr. Crossman, Supt., yesterday announced to the day-shift men that he must discharge all those who belonged to the League, as he could not comply with their demands. All left. Probably one-half of them, but for the pressure, would have preferred to remain.

EMPIRE.—At five o'clock Monday afternoon, Capt. Lee called the roll of workmen, informed them that those who had joined the League were not wanted, and directed them to go to the office and get the halance due them. The entire underground force were found to be members, and were discharged. Operations have ceased, except that the pump is running to keep the drifts frec of water, and Capt. Lee informs us that he will not resume operations until he can work the mine to suit himself.

THE LOSS.—The Empire and North Star mines, which have closed down, have heen producing about $70,000 a month; the loss to the circulation of Grass Valley can not be less than $50,000 a month.

ALLISON RANCH.—Same of 10th: The water in the Allisou Ranch mine has been lowered about 240 feet since they commenced pumping. A great obstacle to rapidly freeing the mine of water is the time consumed in lowering the pumps; it requires fourteen hours' lowering in the day to ten hours' pumping.

SEBASTOPOL.—This mill is crushing 150 tons of rock from the Gregory, Mansau & Co's ledge, on Osborne Hill. The last crushing yielded $89.50 per tou.

SUSTAINED.—Same of 14th: Capt. Lee and Mr. Crossman have each received telegrams from the owners, approving their conrse and telling them to hold firm.

ILLINOIS AND WISCONSIN MINE.—Two hnndred tons of rock from this mine will be crushed at the Sebastopol mill.

BEN FRANKLIN MINE.—15th: Forty-three loads of rock from south side of Osborne Hill, Grass Valley, crushed at Ben McCauley's mill last week, yielded 55 ozs. of gold, worth $16.25 an ounce.

NORTH BLOOMFIELN.—The Gravel Mining Co. are now running their ditch full of water, 2,000 inches. They use 11 pipes and employ 40 men in their claims. They intend to extend their ditch this season up to Big Cañon Creek, at Bowman's Ranch.

NORTH STAR.—17th: At this mine, all work, except pumping, has been suspended. The number of men that have left, or have beeu discharged, is 135. The company have 200 tons of rock on hand that will yield from $35 to $40 a tou. The lowest level in the mine is now down 1,040 feet on the incline, and 362 feet perpeudicular. They havo 1,000 cords of wood in their sheds, and had just procured a 16-inch pump. The valne of the mill, machinery, and property above ground, now lying idle, is estmated at from $150,000 to $200,000.

MINING AT EUREKA.—*Transcript*, 12th: A gentleman from Eureka informs us that all tho miners in that vicinity are constantly employed, and there is a fine prospect for the miners this season.

THE LEAGUE.—15th: On Tuesday the Empire cleaned up and shut down, and the North Star cleaned up yesterday. These two mines employed over 400 men, and others received wages indirectly. The stoppage of wages of so many has a very depressing effect on business. The end is not yet, for it is not known how soon other mines will be obliged to close their works. There however appears to be a general opiniou in the community that the trouble will soon be over.

MINING AT THE CASCADES.—16th: All the companies in the vicinity of the Cascades, on Deer Creek, are doing first rate. We were shown some fine specimens of coarse gold from the Spring Slide, a claim on the Washington ridge above the Cascades. Everywhere in that locality that the grounu has been prospected, the yield is encouraging.

WM. PENN MINE.—Grass Valley *Union*, 18th: The rock in the Penu mine is beginning to look fine again. The miners say the indications are splendid. On the hanging wall the quartz has considerahle gold visible to the naked eye.

OSBORNE HILL.—At Macauley's mill there is another crushing from Gregory & Mansau's mine going forward. The last was $89 a ton.

HOPE COMPANY.—At the Hope Gravel Co's works the large pump has been put in, and commenced to free the shaft of water yesterday. They have some 60 feet to sink before they can strike the pay gravel. The grounu is now easily worked, the hard cement having been gone through.

CHALK BLUFF.—*National*, 12th: We saw to-day at the bank of Findley & Co., a lump of gold weighing 39 ounces, and worth over $754, which came from Timmen's diggings. They are running about 2,000 feet of sluice boxes, but the gold of which we speak was cleaned up out of only thirteen boxes after a run of ten days.

PLUMAS COUNTY.

INDIAN VALLEY.—*Quincy National*. May 1st: The Crescent is now working some very rich rock, the gold heiug visible to the naked eye, disseminated all through it. The only question is whether it is exteusive or not.

THE BON ACCORN,—"Cahalin's Ledge," in the mountain west of the Crescent, is demonstrated to be extensive, being opened by tunnels to the depth of 300 or 400 feet and several hundred feet lengthwise on the ledge. It is the intention of the owners to erect works for crushing during the summer.

THE KITTLE, Judkins & Kellogg's mine at Cherokee, is paying extraordinarily well. In addition to their own mill, the Company have leased the Caledonia, both heing supplied with rock from the Kittle.

THE INDIAN VALLEY MINE.—The Company work about forty men and have two ledges, one recently discovered, both of which prospect well. They intend starting the Pensylvania mill in a few days.

ENTERPRISE.—This mine, in Lights' Cañon, is to be worked on an exteusive scale.

The Cosmopolitan copper mino at Genesee, is now turning out puro copper by the ton. They have already on hand about six or eight tons, and expect to havo twenty by the time the wagon road is opeu so that teams can freight for below. The placer mines also in that vicinity and Grizzly Creek are doing well.

SIERRA COUNTY.

ORIENTAL.—Downieville *Messenger*, May 15th: We understand that this Co., at Wet Ravine, near Alleghany, have struck a rich chimuey in their ledge, snpposed to be the same that paid so well in the workings above.

PROSPECTS WELL.—Frank Hauher of Alleghany, has discovered a quartz ledge near that place that prospects well. He is proceeding to develop it, going in on the ledge.

QUARTZ MILL.—Kime & Davis are putting up the Oak Flat Quartz Mill, and expect to have it in ruuning order before many months. The ledge is owuod by Steveus & Co.

SISKIYOU COUNTY.

ORO FINO.—Yreka *Union*, May 15th: The mines promise a big yield this season. Young & Eastlick are piping away day and night, with every prospect of a big yield. Wright Brothers will take out an immense sum this season. The Mugginsville or Quartz Valley mines, are yielding good returns. Shaw & Co. have just finished their new ditch, and have got to work with good prospects.

J. M. Trimble & Co's new Quartz mill at Hull Gulch, near Oro Fino, is ruuning day and night. Those that are good judges inform us that tho ledge is large and easy of access.

Squire Steele's claims, on McAdams, have been pumped out and a number of hands put to work. These claims are rich. Carrol & Co., and Oak Grove Co's claims, are paying well. Harry Mathewson's gold Hardscrabble claim is also paying well.

TRINITY COUNTY.

Journal, May 15th: Paulsen, O'Neal & Co. are prospecting on the head of McKenzie gulch with enery. They have been running a tunnel to reach a large flat lying along the base of the West Weaver hills. The hills and channels around Weaverville are going to he developed. There are entire flats and ravines where not a panfull of dirt has yet been disturbed.

ARIZONA.

STERLING.—Prescott *Miner*, April 24th: This mine is getting richer every day. At present, some 30 man aro employed in and about it. · Its average thinkness is about 14 feet, and the quartz of every strata in the mine is thickly spangled with gold and sulphurets.

GENUNG & SMITH have commenced work on the Montgomery. They are going to build four arastras.

NEW placer diggings have been discovered on the Hassayampa, nearly opposite Antelope Hill. They are said to he rich and of great extent.

JACKSON & Co's hydraulic claims are paying better than ever before. We saw, Saturday evening last, $1,400 worth of dust that had been brought over. The dust is worth, at the mint, $18.27 per onnce.

A party which took a trip through Walker and Hassayampa districts recently, report the finding of a large, rich lode, at Walker's, by Mr. Graves, which he named the "Geueral Grant." The new shaft on the Tie-Tie, was down 30 feet, and the rock shows plenty of free gold.

RICH ROCK.—A piece of rock weighing five and a half pounds, from the Independence lode, Big Bug district, was pounded up and panned out in our presence the other day, at the store of Gray & Co., and yielded six dollars.

COLORADO.

WILEY.—Georgetown *Miner*, May 6th: Watson & Edwards are working on this lode. The crevice is 15 ft. wide, and shows a large amount of pay rock. There are 4 shafts, each 30 ft. deep. Some large assays from selected ores have been obtained.

MARSHALL TUNNEL.—The workmen have reached a depth of 200 ft. The indications are that the Empire and Bulldog will soon be struck.

Dr. Hewitt has gone to work on the Cortez lode....Huepeden & Co. are running on a large lot of second class Equator ore, with good results.

EQUATOR.—The main shaft on the mine is down 206 ft. In the west end of the level the deposit of ore is truly astonishing. The mine is being run night and day. We saw at the mine ten tons of first class ore, worth in currency at Newark, New Jersey, say $800; 100 tons second-class ore that will net here in currency $150 per ton, and 2,000 tons of ore in the dump that will yield at least $70 per ton in currency, making a grand total of $143,000 worth of ore on hand. The profits of the mine have paid already the original purchase money, cost of running, building of roads, and left a handsome dividend. Improved steam works will soon be erected.

DOWNIEVILLE AND MONTANA DISTRICTS. Central City *Register*, April 22d:. On Friday, we visited some of the newly-discovered silver lodes. The Capital was the first. The discovery shaft is now down 50 ft., and shows a well-defined crevice 5 ft. betweeu walls, carrying a vein of rich-looking ore from 6 to 15 inches wide. In sinking this shaft 10 tons of first-class ore was taken out. Different assays of this have indicated a value of from $200 to $300 per ton. The Comstock, the next lode examined, is on Elephant Mountain, in Downieville district. The discovery shaft, we are informed, is about 30 ft. deep, and carries a vein of rich-looking ore nearly all the way....In the Comet, the crevice is exposed in several places for a distance of 400 or 500 ft., and shows all along an ore vein from two to three feet in width, nearly all of which looks exceedingly rich, and we are informed yields large results by assay....The National has a crevice three feet between walls, and carries a narrow streak of very rich ore.

IDAHO.

POORMAN.—Owyhee *Avalanche*, May 8th: Work is now progressing in the south drift of this mine. The ledge at this point varies from 18 inches to two feet in width, and the ore of excellent quality. The ore house is full, and they are piling up rock in the engine house. There are at least 300 tons on the ground. It is thought the road from the mine to the mill will be in condition for hauling next week.

BAXTER.—The shaft on this mine has been sunk as deep as tho Co. intend it for the present. They have drifted north 150 feet, and find a fine vein rich in gold and silver.

IDA ELMORE.—Silver City *Tidal Wave*, May 7th: This mine shows as well as ever. The north level is now in 80 feet from the shaft and they havn begun stoping on both sides, and will in a very short time take ont ore from the present working level. They are still sinking the main shaft for another level, and the ledge is larger and richer at the greatest depth reached thau at any point above.

SILVER CORD.—Thn main shaft is down 121 feet and will continue 80 feet further before starting a lnvel and commencing to stope. The ledge is from one to four feet wide. They have out about 20 tons of good milling ore.

GOLDEN CHARIOT.—The ore house, shute and yard are piled full of gold and silver-hearing ore tbat is unmistakably rich. Native gold can he seen in every ton of ore from the Chariot.

PLACER MINING.—The ditches leading ont nf Long Gulch in the direction of Ruby are all running full and every drop is being put to nse. Tbe claims beyond the lumber yard, north of Lineoln mill, are heing torn up with vigor. The season is 30 days ahead of any previous one, in the way nf good roads and placer mining.

CENTREVILLE.—Idaho City *World*, May 6th: The difficulty between Mr. Goldtrap and the miners in regard to the price of wator has been amicably settled, and all are at work in tbat vicinity. At Placerville, Granite Creek and More's Creek, and in fact tbroughout the basin, the ditches are generally full and the prospects are good for a prosperous mining season.

Very rich ore has been lately taken from the Elkhorn mine and the mill is again in operation.

Tidal Wave of 11th: The Owyhee mill started up on Wednesday.....The Ida Elmore mill is pounding away night and day ....The Silver Cord is now yielding richer ore than ever.

YUBA DISTRICT.—Boise City *Statesman*, May 4th: All the miners continue taking out ore as good as ever before. The trail is by this timn open for pack animals to Atlanta City. It was the intention to begin hauling ore yesterday to tbe Monarch Co's mill.

NEVADA.

ESMERALDA.

A correspondent of the Sacramento *Union*, writing from Anrora May 4th, says: About 300 pounds of silver hullion from Col. Catberwood's mill, in Palmetto, was brought in bere last week, and 400 pounds of fine gold bullion from S. B. Martin's mill in Silver Peak. The latter is estimated at $80,000. I am informed by the Collector of Int. Rev., for this county, that the annual list for the year 1868 exceeds that of the preceeding year by 57 per cent. and that the supplemental list will increase it to 63 per cent.

HUMBOLDT.

The *Registsr* of May 8th, says: Never since tbe palmy days of 1863 has such activity in mining affairs heen displayed in Humboldt as at the present time. Old mining districts, abandoned during the Indian outbreaks, and from a general lack of confidence in outside mining camps, incident to the period of 1865, are now again sought after by the prospector: new locations are heing made and old ones renewed. In Trinity district are several abandoned claims which are well wortby the attention of prospectors. The Evening Star mine, which has been partially developed, yielded from $75 to $400 per ton, and is said by good miners, who have examined the vein, to be rich and valuable, but tbe moment it became necessary to erect machinery, or to run a tunnel to drain it, work was suspended and the district deserted, and so it remains at the present time.

ECHO DISTRICT.—Judge Strong informs us that five companies are at work on tbe Alpba lead in Echo, two of which, one north and one soutb, havo tbe ledge in their shafts. He also says that a blast discbarged in the Alpha during tbe time he was at tbe mine displaced tons of ore, which was estimated by good judges at $300 per ton. The owners have refused $60,000 for a two-tbirds interest in the mine.

REESE RIVER.

TROJAN.—*Reveille* 8th: Mr. John Howell resumed work on this mine on Tuesday. The Trojan is on Lander Hill, in the vicinity of the Isabella and Revenue mines, and its former partial development was highly satisfactory. Work will heuceforward he carried on with energy. Tbe mine is furnisbed with a new and powerful hoisting apparatus.

MANHATTAN.—We saw this morning in tbe office of tbe Co. 46 silver bars, valued at $59,488 69. The production of the Manhattan siuce it resumed work on the 1st of April is remarkable. We reported the sbipment of some $60,000 for the steamer of the 30th ult., and to-day we found an equal amount ready for transmission to the Atlantic. The works are the most complete for the reduction of the local ores ever establisbed in this district. We learn that during the month the mill would nse only six furnaces instead of its full capacity of ten. The supply of ore is light and irregular at present, but before long this cause will cease to exist.

BULLION.—For tbe week ending Satnrday, the 8th instant, there were produced at the Manhattan mill 32,400 ounces of hullion.

TOTAL BULLION FOR THE QUARTER.—The returns of the Lander Co. Assessor for the qnarter ending March 31st, give 1,201 tons of nre reduced, the total value of which was $265,374—average $220.90—in gold. The *Reveille* says the retnrns are rough and of almost no value. They do not include the returns of the mills at Hamilton, but do include the rest of the White Pine yield.

WASHOE.

[In the Stock Circnlar, in another portion of this paper will he found late mining uews from this district.]

POSSIBLY A STRIKE.—*Enterprise*, May 11th: Yesterday a man employed upon a ditch back of Steamboat Springs, camo down to Reno with a chunk of rock to consult a friend; but not finding bis friend, showed tbe lnmp to some ontsiders. It was not long before he had an offer of $300 for tbe piece, wbich he refused. The story goes that he hired a horse, and when last seen was striking out in the direction of the Springs. The circumstance created some excitement in Reno.

FLOWERY.—Same of 12th: We were yesterday sbown some fine specimens of ore from the Flowery mine. One lump was nearly 100 pounds in weight, and was rich in sulphuret and cbloride. The assays run from $78 to $445 30. The mill is now shut down for repairs, but will sbortly start up with a large amonnt of ore ahead.

GOLD HILL.—There is nothing new to report in regard to the hurning mines in Gold Hill. Tbe fire is supposed to be out, and tbere was a rumor on the streets that they would he opened to-day.

NEW MEXICO.

MORENO MINES.—Santa Fe *Gazette*, May 1st: Work bas been commenced for the season at the Moreno mines with good prospects. The ditch will be completed by the 1st of June, until wbich time the mountain streams will furnish sufficient water.

OREGON.

The Roseburg *Ensign* says: "We are informed by a gentleman from Myrtle creek that new placer diggings have been discovered ou the north fork of Myrtle creek which, it is said, will pay from $10 to $15 per day to the hand. A large number of claims bave been located.

UTAH.

SMITHVILLE.—Salt Lake *Reporter*, May 4th: Mr. Blythe writes to Major Swect, of this city, as follows: "Mining operations are in a flourishing condition. Several hundred miners can obtain work here at the following rates: Day hands, $6 per day; night hands, $7, payable in clean Salmon River gold dust. Provisions are very high. I would advise miners coming to this camp to hring one month's provisions. By the middle of June everytbing will be plenty and at low prices; the trains will reacb bere by tbat time. Board at present is $12 per week in gold." Salmon River is about 350 miles from here, nearly straight north, and this is the natural outfitting point for persons from the East, West and South.

Several partics are outfitting for a trip to the newly-discovered mines near the Promontory, about 60 miles from here.

WYOMING.

CARISO HILL.—*Sweetwater Mines*, May 5tb: The rock in the Sheridan prospects well. Thn Wild Irishman is probably an extension. The Grecian Bend is yielding excellent ore, wbicb will be milled at first opportunity.. Every thing in tbe Hill looks well.

E. B. Eddy started up his quartz mill, half a mile below town, ou Monday last, on ore from Roberts' claim, Cariso ledge. On a run of 12 honrs in Mr. Eddy's little six-stamp mill, fifteen ounces were cleaned up from the plates alonc.

PRIDE OF DACOTAH.—J. W. Waters showed us a prospect from the crevice dirt it was very fine gold, the shaft is down about seven fect, and the ledge is two feet and nine inches in width. The ledge is on Cariso hill, a qnarter of a mile from town.

White Pine Summary.

As a caption for our White Pine Column this week, we may give two paragraphs. The first is from a private letter quoted by the Grass Valley *Union* of the 14th.—the other from the Virginia *Enterprise* of the 15th:

"My private opinion about the country is that it is, and will prove to he, the best country in America; hut it is uo place for a man sick in mind or body. Times are quiet now, and may remain so for a month, but there will be a reaction that will put all croakers to silence forever."

"The price of lots is going down. Men who refused $5,000 for lots a month ago, to-day could not get $250. There is evidently a relapse in White Pine, and everything is coming down to a proper level."

ITEMS OF MINING PROGRESS.—*News*, May 13th: Workmen are engaged on the Horner shaft now down 12 feet, at which depth a fine deposit of fair grade ore has been developed.....Indications in tbe Mazeppa (incorporated) are good. It is intended to sink 100 feet before breasting.....Five tons of ore from the Magenta has been milled, yielding $181 per ton....In the Silver Eagle, a short distance east of the Iceberg, a shaft is now down 25 feet, developing some encouraging prospects.... The Aurora Consolidated yesterday commenced the sbipment of 50 tons of ore, from the Last Chance shaft, to Staple's new mill below Shermantown, to be run through on the wet crushing plan.....About thirty-five claims on an average are being recorded daily by District Recorder Tenney and his deputies. Of lato the greatest numher come from the Base Range....Within the past few days we have seen many specimens of good ore from different ledges on the West Mountain, some of which show hut sligbt traces of hase metal and are extremely rich in chloride.....An ore house is being huilt over tbe Earl shaft. The ore recently struck is turning out so rich that almost every person passing carries off a specimen, aggregating in the course of a day a hundred pounds or more. The owners think this too expensive.

THE EBERHARDT.—*News*, 6th: This mine is as rich as ever. Teams are hauling ore to Shermantown, wbere the company has two mills, one of ten and the other of eight stamps. The average yield of the second class ore is $500 per ton. Tbe first class, whicb it is estimated will go several thousand dollars to the ton, is stored away in sacks, to be reduced by some other process. About a week since work was commenced in the original shaft. A number of sbafts along the Eberhardt have good ore, which proves beyond all doubt that tbis mine extends from 1,500 to 2,000 feet west from the company's ore house, and contains as rich and extensive bodies of ore as is fonnd in the 40-foot level, where the ledge is 183 feet wide, and rolls out its bullion by the thousands monthly. The Oasis mill produced, from Eberhardt ore, from October 14th, 1868, to April 28th, 1869, inclusive,—six months and fourteen days,—473 bars of bullion. Of these, but two dropped under .900 in fineness (they being .898 each), while the finest was .999—as near pure silver as can be imagined—the average being about .975, and the total amount reduced by ten stamps, $656,477.81.

THE INLAND EMPIRE ON THE EBERHARDT. "Its perpendicularly polished marble walls could not have been more symmetrically formed had they been the work of artists. The distance between these two walls, directly across, is precisely 183 feet. The vein matter between them is complete and perfect. Occasionally a slab of limestone intervenes, bnt it is thin in depth and narrow in extent. The whole deposit between the perpendicular walls may be said, with truth, to be one vast bed of silver ore, much of it so pure tbat a thousand pounds of it, fed to the battery of a mill, would simply beat down and close the screen as effectually as if so much lead were shoveled in. In traveling through the chambers of tbis mine, we stopped occasionally and pulled out, with our fingers, pure chloride ores which will yield by mill process from $1 to $3 to the pound. Amid these grim walls are vastly richer ores, worth, say in places, $12 to the pound. When we contemplate the fact that a shaft 184 feet in depth has been sunk, and ores of the same quality found that we have spoken of, the vast wealth of tbe Eberhardt can be imagined, but not described."

TUNNEL COMPANIES — ARGYLE.—*News*, 12tb: The location of tbis company's ground is at the base of Argyle Hill, a short distance south of the Eberhardt mine. The company is composed of San Francisco men. The tunnel is to be driven nigbt and day.

ANOTHER.—A location was made yesterday (on surface indications) for a tunnel to be run under Treasure Hill at a great depth. The company is to he incorporated under the name of the Boxwood Tunnel and Mining Company. The location was made by Daniel Hardy, about 1,400 feet below the Pocotillo, on the eastern side of the hill.

STRIKES.—*Empire*, 9tb: For some time past a number of miners have been engagod in prospecting some ledges ten miles from Hamilton, and a few days since they struck ore and brought it to town. We are informed that the ore gave an assay of $600 per ton.

News, 11th: We hear of a rich strike about 30 miles northeast of this city. Ore was exhibited on the street yesterday said to he worth $8,000 per ton, from the new district. We could hear no particulars.

MILLS.—*Empire*, 12th: Tbe new mill of the Treasure Co., in the lower part of Hamilton, will start up between the 20th and 25th inst. Ore is now heing delivered there. This is a first-class mill of twenty stamps; ten stamps will work hy the dry process and ten by the wet. The mill helonging to the Bank of California will be ready to start on the first day of June. Tbis is one mile and a half north of Hamilton, and has twenty-four stamps. Two other mills in the canon below Hamilton will be ready soon—one in June and tbn otber in July. The mill of Messrs. Dunn & McLean will start in a few days. Within the next 20 days tbere will not he less than 98 stamps in operation in this district.

WILL STEAM UP.—*News*, 12th: Staple's new mill, just below Shermantown, we understand, will steam up to-day, adding five more stamps to the milling capacity of the district.

NEWARK MILL.—Teams have been hauline ore from Chloride Flat to the Newark mill, distanco 22 miles, for tho past 10 days, and the mill will start up to-day on White Pine ore—the local mills not having capacity to meet the demands of our mines.

BORING MACHINE FOR PROSPECTING.—The *News*, of May 6th, says that La Patria mine, 1,000 feet west of the Eberhardt, has heen prospected with a horing apparatus to the depth of 50 feet. Tbe bole was 2⅛ inebes in diameter. The last two feet was rich in horn silver.

BULLION.—*Empire* 13th: To-day we saw two bars of bullion on the counter of the First National Bank in tbis city; No. 111 containing 1,176 50-100 onnces, 984 fine, and valued at $1,496 74; No. 112 containing 1,199 90-100 ounces, 985 fine, valued at $1,528 07. These hars are from the ores worked at the White Pine mill, A. L. Page, agent.

OUTSIDE DISTRICTS.—PATTERSON.—*Empire* 8th: Mr. O'Leary, of Treasnre City, sbowed us a certificate of tbe assay of some rock from the Great Eastern mine, which speaks marvelously well for that district. The rock assayed, according to S. L. Greely's test, $7,163 77 to the ton. We are informed that the ledge is 12 feet wide. The shaft bas only been sunk a few feet.

SACRAMENTO.—J. C. Young writes: The assays of our ore made at Hamilton average $256 per ton. Since my return we bave made a new strike about six miles soutb of this camp. The ore is pronounced hy Belmont men, several of whom are here, to be stetefeldtite. The gold-hearing ledges improve as we gain deptb, and pieces that show free gold are common.

CHINA—COAL.—A Chefoo letter dated April 13th, says Mr. Wortham who recently visited the Province of Shnutung found a Shanse merchant working coal mines in the Poshan valley, who if let aloue by the Mandarins, would be able to lay down Coals in Chefoo as low as $4 per ton. Large qnantities are being extracted for local consumption, from the Wei-bsien and Poshan valleys; but the squeezes are so ruinous, tbat a prohibition is thereby put upon its conveyanco to Chefoo. Tbe Imperial tax is however light, and the first cost of the coal is but 60 cash per 100 catties, at the pits' mouth.

BURNING AGAIN.—The Bellingham Bay Coal mines are burning again, and vessels are unable to land there.

FERTILIZED OVA TRANSPORTED IN ICE.—The fertilized ova of salmon sent from England to New Zealand under protection of ice are now living fish in the rivers. The only loss of eggs was in boxes not properly covered with ice. It is intended to stock all the waters of that country with salmon.

CALIFORNIA CAOUTCHOUC.—There is a caoutchouc tree in a thriving condition not far from San Juan South. The india-rubber tree has been generally considered a purely tropical production; but climatic conditions seem to be quite ignored in California.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. NEWEY.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, May 22, 1869.

The Miners' Strike in Grass Valley.

The chief mining feature of the past few days has been the strike at Grass Valley, where the miners have leagued together, to the nnmber of some 350, to resist the use of Giant Powder and single-hand drilling in the mines. They have had several meetings—some public, others secret—and "resolved" to do all in their power, "honorably, if possible, forcibly, if compelled, *not to allow* any of our fellow-citizens to use the murderous Giant [powder] in the county of Nevada." They have also "resolved" against the use of "single-handed drills." Now, as single-handed drills and Giant Powder will reduce the numher of men engaged in getting out hard rock one-half, it is suspected hy the mine owners that that is really "what's the matter," instead of detriment to health—the plea actually put forth. If such is not the case, why any need of reference whatever in the resolutions to "single-handed drills?" They oertainly do not affect the health.

The miners have evidently heen led into a false and untenable position by iojudicious leaders. So far as protection to health is concerned, it is a very proper subject to inquire into; hut the steps adopted are not at all likely to help the matter. So long as men can be found who are willing to use the Giant Powder, it is the right of the mine owners to employ them; and if full experience shall prove that its use is seriously detrimental to health, both owuers and the miners will very soon find it to their interest to discontinue it.

The local papers and citizens of Grass Valley, generally, are in sympathy with the mine owners. Two of the principal mines—the Empire and North Star—have closed work, and discharged some 350 men, and negotiations are pending with miners in othcr sections of the State for men who are not so teuder-skiuned on the powder qnestion. The excitement is great, and the interests of the entire community are more or less affected. The miners who oppose the use of the powder have an undoubted right to quit work; but the whole power of the State will he arrayed against them if they attempt to prevent others, as they say they will, from taking their places in the mines. It is to he hoped that hetter counsels will prevail, and the old hands, many of whom have families and homesteads iu Grass Valley, will consent to go to work again, and wait for a proper time and proper measures to abate the evil complained of—if, iodeed, any evil shall be found to actually exist.

Electricity Applied to Metallurgy.—The Partz Patent.

The working of ores of silver and other metals by the aid of electricity, was probably first proposed hy Prof. Bequerel, who devoted a numher of years to experimenting on the suhject, without attaining, however, any really practical resnlts, so far as concerned economy. According to his plan the ores were first subjected to roasting, in order to convert the metals to be extracted,—which were mostly in the state of sulphurets,—into chlorides and sulphates. These products were then dissolved, the former in a solution of chloride of sodium, and the latter in water, whereupon the liquids thus ohtained were respectively placed in vessels containing plates of copper, tinned iron or prepared carbon, which served as negative electrodes, and porous cups filled with a solutio n f chloride of sodium, and containing the positive metal, consisting of pieces of either zinc, iron or lead, were introduced to complete the voltaic combination. To establish the electric circuit the negative electrode of one apparatus was then, hy means of a wire or otherwise, brought in metallic contact with the positive electrode of the other, etc., and upon the last connection heing made, the reduction of the metals held in solution ensued. This process, which was especially intended for the heneficiating of silver ores, was finally abandoned hecause the percentage of metal ohtained from the ore was far less than that yielded by the Freiberg process of amalgamation, with which it also compared uufavorahly regarding expenses.

This whole suhject assnmed a new phaso when ahout ten years ago the first attempts were made in this country to apply the electric current directly to the ore without previous roasting. These attempts were prohahly suggested by the property possessed hy metallic sulphurets of conducting electricity. If in a solution of chloride of sodium sulphurets of silver are brought in contact with the positive electrode of a galvanic battery, they are decomposed, chloride of silver is formed and dissolved, and from it metallic silver is thrown down upou the negative electrode. This process is materially aided by the presence of chloride of copper produced either by the mutual dccomposition of sulphate of copper and chlorido of sodium, or hy the electrolytic action hetween a solution of chlo ride of sodium and a positive clectrode of copper.

It seems Mr. John Scott of San Francisco was the first who undertook a series of trials to test the practicability of suhjecting silver ores, plunged in a solution of chloride of sodium and salts of copper, to the action of voltaic electricity. Others, more or less conscious of their object and the scientific principles involved, stepped from time to time in his wake, failed, aud returned to their legitimate callings, until several months ago puhlic attention was anew and in a higher degree than ever before, drawn to the subject by an exhihition of experiments on an extensive scale hy Messrs. A. L. Nolf and F. L. A. Pioche. Their process, as publicly shown, is substantially as follows: They immerse the ore, finely pulverized, ina solutiou of chloride of sodium and sulphate of copper contained in a wooden vat, the inner sides of which are, to within six or eight inches from the hottom, lined with sheet copper. Iu the center of the vat is au upright shaft to which arms or stirrers are attached which are also covered with sheet copper, and extend downward far enough to he in contact with a layer of quicksilver resting ou the hottom. This quicksilver, and through it the arms or stirrers, are connected with the negative pole of a powerful galvanic battery, while the copper lining of the vat is connected with the positive pole. To allow the introduction of steam the vat is provided with a well-fitting cover. During the operation the shaft is revolved by power derived from a small steam engine, and thus the ore pulp is kept in agitation—so that the particles of sulphurets contained therein may successively be thrown in contact with the positive electrode, in order to become decomposed.

Now it must be borne in mind that in the application of electricity to the treatment of ores containing snlphurets and snch other metalliferous minerals as must he decomposed hefore their constitnent elements can combine to salts capable of forming electrolytes, from which metals may be reduced, it is a necessary condition for the success of the operation that each particle of such minerals be not only *brought* in contact with the positive electrode, but also *kept* in contact with the same, until it is decomposed.

This condition, it is evident, can not be complied with by a mere agitation of the ore pulp between electrodes placed vertically, or otherwise so arranged that a contact hetween each particle of sulphuret and the positive pole-plate is in great measure but a matter of chance, and generally of but momentary duration; unless the operation he continued for an indefinite length of time—or, indeed, the chemical ingredients added to the ore pulp he of such kind and quantity that the intended result would almost as well he reached without the application of electricity.

An invention by Dr. A. F. W. Partz, of Oakland, for which a U. S. patent has lately heen granted, is intended to meet the requirement ahove referred to, and thereby render practicable a new metallurgical process which may yet be destined to play a conspicuous part in our mining industry. The apparatus which he employs may briefly be described as follows:

A cylindrical wooden vessel, about 6 feet long and 4 feet in diameter, a segment of which, amounting to nearly one-third of its periphery, is missing, is horizontally so suspended on two gudgeons fastened to its sides in the line of its axis, that the opening left by the missing segment is on top. This opening is provided with lids which are closed dnring the operation. Lengthwise through one of the gudgeons is bored a hole, just wide enough to allow a steam pipe, which in the vessel is hent downward, to pass through it and remain in place when the gudgeon is turned. The bearings in which the gudgeons rest are supported by pieces of timber, hetween which thick plates of glass are inserted, to prevent loss of electricity by "leakage." The inner periphery of the vessel is, up to the hight of its axis, lined with a sheet of copper which forms the positive electrode, and is, by means of a wire which passes through the side of the vessel, brought in metallic connection with one of the gudgeons. Eight or ten inches from the periphery, below the axis of the vessel and parallel with the same, a numher of tuhes of brass or copper about two inches in diameter are placed in a segmental row a few inches from each other, resting at one end of the vessel upon a wooden, and at the other upon a metallic support. These tuhes constitute the negative electrode, and are, by means of a wire attached to the metallic support, and which passes through the tide of the vessel, brought in metallic connection with the other gudgeon. Upon either gudgeon rests the eud of a flat spring, and to these springs the respective pole wires of a galvanic battery, or some other generator of dynamic electricity, are fastened.

Having thus given an outline of the principal features of tho apparatus, we will proceed to give a brief description of the manner in which argeutiferous ores are worked by its means.

The cylindrical vessel is, to about one third of its capacity, filled with a solution of chloride of sodium, to which pulverized ore is added nntil the mass forms an easily flowing pulp. By power applied to a crank fastened vertically upon one of the gudgeons, the vessel is put in a slow swinging motion, the crank alternately deflecting from 40 to 50 degrees either way from its vertical position. This motion is intended to prevent the earthy portion of the ore from settling, and at the same time to facilitate the sinking of all heavier particles, (sulphurets etc.,) and their concentration upon the positive pole-plate, where they collect in a layer, which is kept agitated just enongh to insnre the constant forming of new points of contact with the pole-plate. The electric connection heing made as above stated, and steam heing turned on, a vigorous electrolytic action ensues. Water and chloride of sodium are decomposed, oxygen and chlorine are disengaged at the positive electrode, and ready to enter into the new combinations; they effect, under the influence of the electro-current, the decomposition of the sulphurets, and other metalliferous compounds resting upon the positive pole-plate, while they also attack the plate itself, forming with the material thereof, oxychloride of copper, which in turn aids in the formation of chloride of silver. The latter dissolves in the solution of chloride of sodium present, and from it metallic silver is reduced and deposited upon the tubes constituting the negative electrode. As the silver thus reduced is apt to be in a loose, flocculent or spongy state, the tubes must he amalgamated with mercury to hetter insure its adhesion and collection, and the amalgamation must from time to time be renewed, which may be accomplished by merely dropping some mercury into the vessel; hecause on coming in contact with the positive pole-plate the mercury is dissolved, whereupon it is reduced again to its metallic state, and deposited together with the silver. The form of tubes was chosen for the negative electrode, on account of the large surface which they afford, and the facility with which they are removed and stripped of the adhering amalgam. If under circumstances it should, however, he deemed preferahle to employ a layer of quieksilver in their stead, the same may be placed in a flat vessel, the negative pole-wire dipped into it, and the vessel suspended in the liquid. An addition of sulphate of copper to the ore pulp quickens the operation, but is not essential for its success. The positive pole-plate being dissolved in proportion nearly equivalent to the silver reduced (i. e. about 32: 108) must, from time to time, he restored. To this end the remaining portiou of the plate need not be removed, it heing necessary only to cover the spots where the metal has disappeared with patches of copper fastened to the vessel with copper nails.

The above described apparatus is also to be employed for the extraction of gold from auriferous pyrites; but if so employed, a positive electrode of iron or carbon (slabs of Bunsen coke or of graphite) is suhstituted for that of copper. The same change becomes necessary in the treatment of sulphurets and other ores of copper, in which also solid rods of copper in place of tubes are used as negative electrodes. According to the character of the ores, an alkaline sulphate or nitrate, or sulphate of iron, may sometimes advantageously be suhstituted for chloride of sodium, or used in counection therewith.

For reasons of economy, the employment of galvanic batteries is admissable only in the working of orcs of silver; for other ores, magneto-electro machines must he used in their stead, so that in generating the electric forces required, carbon may be consumed in place of zinc.

Dr. Partz expects soon to have his invention demonstrated on a full working scale. His patent is probably the first ever issued in this country for a purely electro-metallurgical process, and as the whole matter is comparatively new, and of no small importance, giving promise of many controversies and scientific elucidations, we have heen as full and explicit on the subject as our space and the material at our command would permit.

Woodside's Axle-Box Rubber Packing.

A very useful, and what strikes one at first glance as self-evidently a successful invention—provided no disadvantages that are yet undeveloped shall prove to be connected with it—has been brought into use in San Francisco, and patented through this office, by Mr. E. G. Woodside, the application of which is nearly as general as the employment of wagons and carriages themselves. It is nothing more than a ring, or cylindrical piece of rubber, packed into the inside of the hub of a wheel, and again covered and protected by the usual iron hub lining, or box, the effect of which is to deaden all sharp concussion to the axle, the framing, and the working gear of the wagon or carriage, including the pulling gear, the harness, and the horses. An ordinary wagon spring—an in dispensable invention certainly—does the same thing for the load; but disregards application of the assuaging principle of elasticity to the bones of the horses and vehicle. When a stone, or other obstruction, is encountered, the buggy for example furnished with Woodside's rubber, jolts more mildly, and with a deadened sound; while in a heavy dray the same effect is observable, but at the same time the exertion is said to be rendered perceptibly easier to the horses.

This rubber can be put into any ordinary wheels, of a wagon, or carriage, in a few hours, and without scratching the paint even—by simply knocking out the box and inserting this underneath it in the hub. Carriage makers in this city are trying Woodside's invention, the opinion generally expressed being very favorable; and Mr. Morton, the proprietor of 120 trucks and of the colossal city freighting concern on Ellis street, is undertaking a test of its merits for heavy vehicles. The following are the advantages claimed for it by the patent holders:

1. The carriage lasts twice as long.
2. The riding is easier.
3. Three horses, in a truck so cushioned, will draw as much as four without the rubber springs; the operation in practice being that when an obstacle is struck the rubber gives, and allows the vehicle or axle in motion to go on until the wheel, by the reaction of the rubber instantaneously propelled forward, can pass on to the obstacle, so preventing all concussion adverse to the motion from retarding the vehicle.
4. It is claimed that an additional weight placed on the wagon, will not increase proportionately the amount of traction, but will assist by inertia in carrying the wagon over the obstacle; the weight of the load bringing out the action of the rubber—to a certain limit, of course, where the rubber might be overpowered, depending upon its hardness, and design.
5. There is less liability to breaking of axles, wheels, harness, etc.
6. It is claimed as a matter of fact, that a carriage is not so likely to be upset in turning rapidly a short curve. The reason assigned for this is, that while the upper wheels cling only naturally to the ground, the lower ones are buoyant from pressure on the rubber, the tendency being to cause that side to rebound the more, in any direction that it can, and so recover itself.

Dr. A. F. Cooper, of 815 Market street, San Francisco, is one of the parties interested in this patent, to whom we would refer all parties regarding the subject.

New View of Treasure Hill.—Britton & Rey have lithographed a very correct drawing of Treasure Hill, made by Mr. S. C. Lewis, which shows less of the country than Mr. Peet's picture published by Bancroft & Co., but reproduces exactly the impression given to one by the mountains of Eastern Nevada. Mr. Peet's picture was intentionally foreshortened somewhat, with a view to getting in as much geography as possible. In this, the topography is more rounded, and the hights, ravines, trees, etc., possessing all the appearances of prosaic reality.

The Iron-Making Problem.

We regret to learn that the Oswego (Oregon) Iron Works have suspended operations. Cessation, however, of iron production on this coast, under existing circumstances of railroad building and prospective manufacturing, can surely be nothing more than temporary. If the Oregon Iron Works property is to depreciate in permanent value, it will be because other equally valuable deposits of ore more favorably situated, shall be found,—a supposition scarcely possible. This is probably a matter of "market." The demand for iron on this coast is met, or controlled, by a few; a state of affairs necessarily circumscribing to native iron production, but not to last long, under our rapid strides of progress in all of the producing arts and trades.

The Sacramento *Union* calculates: that the transportation of the iron of the Union and Central Pacific roads—at 100 tons per mile and 1776 miles from Omaha—cost them just about as much as its prime cost at St. Louis ($64, gold, per ton), when, if they had been furnished with rails from manufactories, say at Salt Lake, or Laramie Plains, it would have cost but one-third as much. The prime cost of the iron for the whole road delivered at St. Louis was about $11,000,000. Add to this $11,000,000 for transportation, and we have the real cost to the company. Deduct two-thirds of the transportation cost—$7,333,333 50—and we have $14,666,666, what the real cost would have been had the company's rails been supplied at Laramie Plains or Salt Lake. In twenty years the *Union* estimates that the gold and silver producing West will lay 20,000 miles of new rail; and if our iron ores could be worked up as cheaply as is done at Carondelet or Pittsburg, that the saving to us, in the construction of our great railway system alone, would amount to a hundred million dollars in gold.

But we shall also have an iron consuming world, where railroad and manufacturing machinery and the iron arts in general are already appreciated, in Japan and China. It is a question of economy, indeed, whether they may not, in the end, supply us, rather than we supply them. Good cooking coal, charcoal, economy of labor, and convenience to shipping, are the questions to be asked in determining the value of an iron ore deposit.

Obituary.—Miss Annie W. McClelland, a young lady of rare traits of character, of energy, artistic refinement, and the highest degree of womanly delicacy, who possessed at the same time a moral courage and perfect independence such as are popularly believed to be beyond the sphere of the dependent sex, died, after a brief illness, on Monday last, at St. Helena, Napa county, whither she had repaired for the benefit of the delightful climate of that region. Miss McClelland's initials were familiar to the readers of the Mining and Scientific Press, some of the best engravings that ever appeared in these pages having come from her hand. She was fond, indeed too fond, of the artistic work in which she excelled. All who have met or known Miss McClelland will learn of her demise with profoundest regret. It is one of those cases where we are compelled to ask ourselves the question, Why must it have been? for it seems that the noblest and best, whose qualities call forth a unanimous tribute of human regard, and even persons of entire immunity from all physical sources of disease, must occasionally be taken from the arena of life by a higher Cause or method of law than we find ourselves able to comprehend. The deceased was buried at St. Helena on Wednesday. She was formerly a resident of Cleveland, Ohio.

The Chilean Agricultural and Mechanical Exposition was to have opened at Santiago about the middle of May.

A communication containing valuable information from Virginia City, will be found on the second page.

White Pine.—We have some mining notes from our agent at White Pine, which came to hand too late for insertion to-day. They will appear next week.

African Exploration.—Du Chaillu, the African explorer, is expected in San Francisco shortly, on a visiting and lecturing tour.

Continental Life Insurance Company, 203 Montgomery street, corner of Pine.

Returned.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

Photography.—For Cabinet Photographs, or Enameled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
10v18 6m B. F. Howland.

PAIN KILLER cures Sore Throat.
A Favorite Medicine with all classes, is Davis' Pain Killer.
If you have Painter's Colic, Use the Pain Killer.
NO Medicine is so popular As the Pain Killer.
KEEP the Pain Killer always on hand.
If you have a Cough or Cold, Use the Pain Killer.
LOOK out and not be caught without a Bottle of Pain Killer in the house.
LET every body use the Pain Killer For Sprains and Bruises.
EVERY sailor should carry a bottle of Pain Killer with him.
REMEMBER, the Pain Killer is for both Internal and External use.
The Pain Killer is sold by all Druggists and dealers in Family Medicines.
REDINGTON & CO., and HOSTETTER & SMITH, San Francisco, Cal., General Wholesale Agents. my1m

Dr. Hall has just returned from Europe after an absence of one year, during which time he has visited England, Ireland, France and Germany, and has held consultations with the following eminent physicians: Drs. Curling, Druit, Leo, Parker, Acton, Aitken, Churchill, Ricord, Velpeau, Boeck, Sperino, and Dewilz. Many of the cases in which he held consultation with the above named eminent physicians were, we are sorry to say, those of Americans. Americans will not now be under the necessity of leaving the Pacific Coast for Medical Treatment, for Dr. HALL has brought with him every new mode of treatment known to the greatest physicians of the world. To old residents of the Pacific Coast it is needless to mention the address; to newcomers, however, it is necessary to mention that he may be found at the American Surgery and Dispensary, 402 Montgomery street, opposite Wells, Fargo & Co's, San Francisco. 21v18-3m

CALIFORNIA AVENUE
Homestead Association.

Lots from 26 to 30 Feet Frontage by 120 Feet in Depth, in Blocks 88, 89, 90 and 91. Fronting on California street, between Seventeenth and Twenty-first Avenue.

Shares, $330 Gold Coin,
Payable in Monthly Installments of $10, without Interest—First Payment, $20.

This Association is organized to purchase a tract of land comprised in the above mentioned blocks. The location of this property being on THE LINE OF ONE OF THE MAIN AVENUES leading westerly from the business center of the city, and now easily accessible, makes it unsurpassed in present and prospective value by any property in the suburbs of the city. California avenue will at an early day be graded its entire length, and the railroad facilities which will be furnished during the next year will amply accommodate all shareholders who may desire to improve their lots.

There is NO DRIFT SAND on or near this property, and NO HIGH HILLS. The lots are large, and ALL DESIRABLE. TITLE PERFECT.

Its fine location, nearness to the business portions of the city, and the low price at which it is offered, combine to recommend this property to all who desire a profitable investment on easy terms.

Books of subscription open at the office of H. B. CONCDON, No. 619 Montgomery street. 21v18-2t

Machinists, Attention!
For Sale,

A lot of MACHINISTS' TOOLS, consisting of 3 Lathes, suitable for steam or foot power; Turning Tools, suitable for Brass, Iron, or Wood; Gearing Cutter, and a variety of other Tools. Will be sold at a great sacrifice. Can be seen at 105 First street. 21v18-1t

PACIFIC
Rolling Mill Company,
SAN FRANCISCO, CAL.

Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY Post Office, San Francisco, Cal., will receive prompt attention.
☞ The highest price paid for Scrap Iron 9v14 3m 9p

A NEW
Gold Metal.

THE GOLD METAL WATCHES
Now being introduced by
C. E. COLLINS & CO.,
No. 629 Washington street,
SAN FRANCISCO,
Surpass anything yet made in the way of an imitation Gold Watch. They wear well, and keep good time.

The Ladies' Watches cost $8 and $10 each.
The Gentlemen's cost $15 and $20 each.
Chains, from $3 to $6 each.

RECOMMENDATIONS:

San Francisco, May 12, 1869.
This to certify, that I have carried one of the small size Gold Metal Watches which I got of C. E. Collins & Co., and I find that it runs as well, and keeps as good time, as any Watch I ever carried, and I can therefore recommend them. I am engaged on the Sacramento steamer "Chrysopolis." C. A. COLBY.

I am an engineer on the San Jose Railroad. I have been carrying one of C. E. Collins & Co's Watches for about one year, and I can safely say it is the *very best* watch for time that I have ever seen. GEO. CORNWALL,
Engineer on the San Jose Railroad.

Messrs. C. E. Collins & Co:—Having heard your watches spoken of in the highest manner, I have resolved to order one for myself. You may send me one of the Lady's $10 Watches, without the chain. Send it as soon as possible, as I am very much in need of a time-piece.
R. B. PATTEN,
Toano, C. P. R. R.

The Public are cautioned against buying their watches at high prices, as many of them are sold for genuine *Gold Watches*, at from $100 to $150 each.
For List of Prices and Description of Goods send directly to us. Can be sent by Express, to be paid for on delivery.
C. E. COLLINS & CO.,
No 629 Washington street, San Francisco.
P. S.—Where six Watches of the above are ordered at one time, we will send one extra, free of all charge.
We also deal in the finest Gold and Silver Watches, Watch Materials, etc. Send for circulars or prices.

Important to Assayers.
Crucibles.
The Patent Plumbago Crucible Co.,
Manufacturers of all kinds of
Melting Pots, Portable Furnaces,
CRUCIBLES, and other fire-standing Goods,
Battersea Works, London.
THE MORGAN PATENT CRUCIBLES have uniform quality, never crack, withstand the greatest heat without danger; heats more rapidly than any other; change of temperature has no effect on them; stand on the average forty to fifty pourings.

CERTIFICATES:
United States Branch Mint, San Francisco, Cal., March 12, 1869—Messrs A. S. Hallidie & Co, Agents Morgan Crucible:—I have carefully tested the Morgan Patent Plumbago Crucibles purchased from you for the U. S. Branch Mint, and cheerfully certify to their superiority and economy over all other Crucibles used by and under me. They are fully what you represent them, and I shall continue to use them in preference to any other. J. M. ECKFELDT,
Melter and Refiner, U. S. Br. Mint.
Eagle Brass Foundry, 206 Fremont street, San Francisco 12th March, 1869—Messrs. A. S Hallidie & Co., 519 Front street—Gentlemen:—We have used and tested the Morgan Patent Plumbago Crucible, for which you are agents, and pronounce them superior to and cheaper than any Crucible used by us heretofore. GREENBERG & MOORE.
Messrs. A. S. Hallidie & Co:—We have thoroughly and severely tested in every way the Morgan Patent Plumbago Crucible obtained by us from you, and find them superior to any we have yet tried, although we have used every pot obtainable in this market, we have none equal to the above, and concede your claims for them. We think they will average 45 pourings of brass.
GALLAGHER, WEED & CO.,
California Brass Works, 125 Front street, San Francisco.
Assay Office of H. Harris, Silver City, Nevada, April 24, 1869—Messrs A. S Hallidie & Co.—Gents:—I received from you three Crucibles of the Morgan make, which I have used since their arrival, and tested by constant use. Since 1847, when in the New Orleans Mint, I have always preferred the Crucible of Dixon's make over Adie, Gantier, and Taunton, Mass. Yours I find to be not alone of more finished make, but to stand double or treble the work of Dixon's Crucibles. The No. 12—the smallest sent—has stood so far 32 meltings, and is as good and sound as when received. Your Crucibles do not scale off like others; and as they are forty per cent. cheaper, I do not see why they should not be preferred by all assayers on account of durability and cheapness. Yours respectfully, H. HARRIS.
On hand and for sale by the Agents,
A. S. HALLIDIE & CO.,
18v18-9p 519 Front street, San Francisco

DR. KNOWLES, Dentist,
HAS REMOVED FROM MONTGOMERY to 831 Kearny street, west side, between Pine and Bush, San Francisco.
21v15 1y

THE CHARLES HARKNESS
Patent Wax Candles,
Have now an established reputation on this Coast. Their uniform quality, much superior to any Adamantine Candles, is
Well Known to Miners.
They burn longer and better than other kinds, and are really the most economical Candles in the market.
FREEMAN, SMITH & CO.,
110 California street.
Manufacturers' Selling Agents. 21v18-3m

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and s the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

IRA P. RANKIN. A. P. BRATTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing· Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.
San Francisco, May 1, 1868. 18v16tf

WILLAMETTE IRON WORKS,
PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,
18v13-1y One block north of Couch's Wharf.

Globe Iron Works,

STOCKTON, CAL.

KEEP & BARGION,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.
13v13tf

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. GALLAGHER. J. H. WEED V. KINGWELL.
9v13-1y

FOUNDRY FACINGS.

BENJAMIN ELLIOT,

No. 483 Brannan street.....San Francisco,

Manufactures Foundry Facings constantly, from choice coals. Bituminous, packed in tight sacks. Anthracite and Charcoal ground together or separate, packed in whole or half barrels. Black Lead, Coke and Soapstone ground to order. Foundrymen located far from choice material, can rely on having superior Facings forwarded to order.
10v18qr

Miners' Foundry
—AND—
MACHINE WORKS
Nos. 245 TO 255 FIRST STREET,
San Francisco.

HOWLAND, ANGELL & CO.,
PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS. FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS,
OIL WELL TOOLS, ROCK BREAKERS,
—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness, We are the only manufacturers on this coast of the

HICKS ENGINE.

The most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,
13v14-qr **CYRUS PALMER.**

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,
MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers,** with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

UNION IRON WORKS,
Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Pistoo

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

THOMPSON BROTHERS,
EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,
of every description, manufactured 24v16qr

JAMES MACKEN,
COPPERSMITH.

226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.
13v11

G. T. PRACY.
MACHINE WORKS,
NOS. 109 and 111 MISSION STREET,
Between Main and Spear.

New and second-hand
Engines and Boilers,
FOR SALE.

Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

PRACY'S

Now and Improved

STEAM ENGINE

REGULATORS,

The best and cheapest yet Invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S

Shingle Machines

on hand.

Particular attention paid to Repairing.

☞ All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

HUGH H. LAMONT. WM. CALDWELL.

Cyclops Engine and Machine Works,

Construct and Repair every description of

Stationary and Marine Engines, Mill and Mining Machinery.

Special attention given to Repairing Machinery.
ap17-3m **113** Beale street, near Mission, S. F.

THE RISDON
Iron and Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,000,000.
Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch.

Directors:

S. F. Butterworth, Chas. E. McLane,
Lloyd Tevis, John N. Risdon,
Jas. Pollock, Joseph Moore,
Ben. Holladay,

JOHN N. RISDON, President.

Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 24v17-qy

Phœnix Iron Works.

JONATHAN KITTREDGE, Proprietor,
Nos. 18 and 20 Fremont street, near Market, San Francisco.

MANUFACTURER OF

Fire-Proof Doors and Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge, Prison

FORGING AND MACHINE WORK,
IMPROVED FIRE-PROOF SAFES,

FIRE AND BURGLAR-PROOF SAFES,

Of a superior make. manufacturer of the celebrated

MONITOR SAFE.

BANK VAULTS AND SAFES,

Of every description, made to order at short notice. A large stock of SAFES of all kinds constantly on hand

Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the
1v17tf United States

CITY IRON WORKS COMPANY.

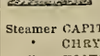
CLERC & CO.,

IRON FOUNDERS,

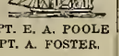
Steam Engine Builders and Makers of all kinds of Machinery.

6v11-6qr No. 28 Fremont street, San Francisco.

California Steam Navigation



COMPANY.



Steamer CAPITAL.....CAPT. E. A. POOLE
" CHRYSOPOLIS.....CAPT. A. FOSTER.
" YOSEMITE..... — —
" CORNELIA.....CAPT. W. BROMLEY
" JULIA.....CAPT. E. CONCKLIN.

Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville Colusa, Chico, and Red Bluff.

Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE,
13v12 **President.**

Resources & Developments

The Beet Sugar Interest.

The production of sugar from beets, in California, is just now attracting a large share of public attention, and most deservedly so. It will require over 25,000 tons of raw sugar to supply this market the coming year, which will draw from our State not less than five millions of dollars, mostly in coin or bullion. With this fact in view, it is a matter of no little congratulation that a thorough and persistent attempt is about to be made in Sacramento to introduce there the culture of the sugar beet, and the manufacture of sugar therefrom. The Sacramento Beet Sugar Association has purchased about 350 acres of land, where they are now engaged in planting the seed for their first crop; and they have furthermore contracted with numerous other parties to plant with beets, some five, some ten and some twenty acres of land, the product of which is to be delivered to the company at five dollars per ton, and opportunities for contracts are still open. The best of seed, procured in Europe by the company's agent, Mr. W. Wadsworth, has already arrived, and has been distributed, and much of it already placed in the ground. Mr. Wadsworth is still abroad, studying the most improved systems and machinery for this manufacture, preparatory to undertaking the management of the company's factory in Sacramento. The factory building will be up and ready for the machinery by the time it arrives, and everything will be in operation early in the fall.

If this experiment succeeds according to anticipations, there is much reason to believe that beet sugar-making will become one of the leading industries of the State, and give employment to many thousands of people. The experiment is a bold one, and whether successful or not, the projectors will be entitled to the thanks of the entire State for the effort which they will have made to establish a new and important industry in California. At present they are sanguine of success, but will not grumble at failure.

We are justified in pronouncing the experiment a bold one, from the fact that with all that has been said upon the subject within the last twelve or fifteen years, there is, as yet, only one establishment for its manufacture in the country—at Chatsworth, Livingston County, Illinois. This establishment has been struggling along some five years, and it is only recently, we believe, they have succeeded in getting into fair and profitable operation. The trouble encountered was in the manufacture and not in the production of the raw material. Skill, only, was wanting. It is to be hoped that our Sacramento friends will start right. In Germany, there are nearly 300 factories, which use up over 400,000 tons of beets annually. Austria has about 150 factories; while France exceeds all other countries in the production of this important article of commerce.

The present high price of sugar, growing out of the disturbed condition of Cuba, will be a great help towards giving the enterprise a start in this State. The annual consumption of sugar in the United States is about 500,000 tons, not more than 35,000 to 40,000 tons of which are of home production. This is exclusive of the annual production of about 25,000 tons of maple sugar. There is a strong argument here for a strenuous and determined effort toward the introduction of this enterprise into California, where there is reason to believe the soil and climate are more favorable to beet sugar culture than in any other part of the world.

SHERMAN ISLAND IMPROVEMENTS.—Great success has attended the efforts of reclamation at Sherman Island, in the Sacramento river, near its junction with the San Joaquin. Extensive and continuous improvements have been made there. Forty-seven miles of embankment have been made, and four large dams have been constructed across as many sloughs. Thirty large open flumes, with swinging and stationary gates, have been located at different points for drainage or irrigation, if needed. Land on this island that a year or two ago was not worth more than $5 per acre, has recently sold as high as $30. The proprietors are holding out liberal inducements for capital and skill to locate there. They desire to

enter largely into the production of seeds, are contemplating the introduction of the sugar beet there, with a manufactory, and are also making arrangements to build or buy a little steamer for the trade between that island and this city. There are hundreds of places in this State where combination of effort and capital will succeed equally as well as at Sherman Island.

PROVEN A SUCCESS.—For several years past, and until recently, many persons in the interest of cattle raising have denominated the alluvial lands west of the San Joaquin and south of Stockton as a barren waste, "fit only for the grazing of sheep for three or four months in the year." Recently, however, attention has been attracted to these lands by grain-growers, and extensive tracts have been sown with wheat and barley the present season. The crops are now said to be in excellent condition, rich and thrifty in color, high as a man's shoulder, and giving every prospect of a bountiful harvest. This success will doubtless lead to a vastly increased improvement of lands in that vicinity in future years. The extent of these lands is immense, and that section presents a most inviting field for the emigrant.

PROFITABLE GRAPE GROWING.—It is said that every acre of vineyard in full bearing near St. Helena, Napa Valley, paid at least $75 net last season, and much of the land paid twice as much or more. The grapes in that section appear to be peculiarly adapted to distillation. About 40,000 gallons of brandy were made there last year, most of which was shipped to New York. This success has greatly stimulated the grape-growing business in that district, and fully 100,000 more choice varieties of vines will be set out there this season.

LUMBER TRADE.—The lumber trade of this city, for the quarter ending March 31st, amounted to over one and a quarter millions of dollars—at the rate of over $5,000,000 per annum. The most of this lumber now comes from Oregon and Washington Territory. The supply is inexhaustible.

WOOL IN SAN LUIS OBISPO.—Messrs. William and Robert Watt, of Grass Valley, have recently purchased a ranch of 27,000 acres, within fifteen miles of the town of San Luis Obispo, upon which they have already 11,000 sheep, which number they intend soon to increase to 20,000.

GEO. E. ROGERS,
(Successor to G. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
25v16-qr10mr

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OF SAN FRANCISCO, CAL.,
Office, No. 422 California street.
Cash Assets, Jan. 1, 1869, - - $1,529,740 18
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MARINE,
AND
INLAND
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On all kinds of Ores, and particular attention PAID TO
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CARD PICTURES,
ONE DOLLAR PER DOZEN,
And Photographs, Ambrotypes and Sun Pearls, by first class artists, at the lowest rates,
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UNDERTAKERS,
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☞Sole Agents for Barstow's Metallic Burial Cases and Caskets.
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Farmers and Mechanics
BANK OF SAVINGS,
No. 225 Sansome Street.
Interest paid on Deposits. Money Loaned on Real Estate.
H. DUTTON, President.
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CARPENTER and BUILDER,
No. 324 Jackson street, between Sansome and Battery,
Stores and Offices fitted up with neatness and dispatch.
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W. T. ATWOOD,
PURCHASER OF
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505 Montgomery street, San Francisco.
The highest market price paid for ores assaying 10 per cent. and upwards. 23v17qr

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PATTERN AND MODEL MAKER,
No. 20 Fremont street, over Phœnix Iron Works, San Francisco.
Particular attention given to MODELS for the Patent Office Brands and Pattern Letters Cut. 4v18mtf

Farms and City Property.
C. H. WAKELEE & CO.,
601 California street, S. W. Corner Kearny street, buy and sell Farms and City Real Estate. Parties wishing to invest will find it to their interest to call on the . 13v18-3m

Pump Leather.
The attention of MINING COMPANIES, and others requiring a superior article for Hydraulic purposes, is invited to the heavy Oaked Tanned Pump Leather, manufactured and prepared expressly by the undersigned.

TRADE SANTA CRUZ TANNERY E. JONES & Co MARK.

Constantly on hand and for sale by
GRAY, JONES & CO.,
Depot of the Santa Cruz Tannery,
418 Battery St., San Francisco.
25v17-1y

SULPHURETS;
What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.
By WM. BARSTOW, M. D.
Published by A. Roman & Co., San Francisco.
For sale at this Office.--Price, One Dollar.
With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

Job Printing.

We employ the best workmen in this department, and promise our customers—(many of whom have patronized the office for over eight years)—the best of work at very fair and uniform rates.

We are constantly adding new presses, type, and other material to our stock, making our facilities good for doing a wide range of work for merchants, mechanics, inventors, manufacturers, and tradesmen of all classes.

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Printing in colors, bronze, plain and ornamental style promptly done. Especial care given to working engravings

A GOOD INVESTMENT.
THE MOUNT MORIAH
Silver Mining Company,
OF ARGYLE MOUNTAIN,
White Pine District,
NEVADA.
Capital. - - - $300,000.
60,000 Shares, $50 Each.
FULL PAID AND NOT LIABLE TO ASSESSMENT.

President.....A. DE LAND
Secretary.....LOUIS COHN
Superintendent at Mines.....CHAS. E. HARRIS

TRUSTEES:
A DE LAND, THOMAS ANSBRO,
CARL PRECHT, LOUIS COHN.
W. S. TAYLOR.

This Company offer to the public One Thousand Shares of the Capital Stock for a Working Capital, at the subscription price of Five Dollars per share—FULL PAID, and NEVER liable to any assessment whatever. The mine is admirably located for working, being situate on Argyle Hill, opposite Treasure City. Shaft sunk 10 feet, showing a large body of chloride, which assays $700 per ton, and which will now mill $200. The capital raised to be used and expended on the mine. The standing and reputation of the Trustees is ample guaranty of responsibility, etc. Maps and samples of ore, and subscriptions at the office of the Company, Rooms No. 15 Stevenson House, corner California and Montgomery, and at 211 and 213 California street, near Battery street. 16v18tf

ILLINOIS
SILVER MINING COMPANY
White Pine District.
Trustees:
JAS. H. CUTTER, B. F. FREEMAN,
E. H. SHAW, JAS. R. GARNISS,
DAVID BUSH.

The Company's Mine adjoins the celebrated "Silver Glance," and is in close proximity to the "Argyle," and other prominent mines of the District.

From developments already made, the Trustees feel justified in saying to their friends that this is one of the best opportunities ever offered for investment in this State.

For the purpose of further developing the mine, the Company has set aside a limited amount of stock, to be sold as a working capital, of which they now offer 1000 shares, at the nominal price of $2 50 per share, unassessable—the entire proceeds of which will be devoted to developing the mine.

The books of the Company are now open for subscription at the office of the Company, No. 432 Montgomery street, Room No. 1, first floor. By order.
JAS. U. CUTTER, President.
G. W. STEWART, Secretary.
15v18-2m

HO TEAMSTERS!
CONTINUE TO
USE HUCKS & LAMBERT'S
CELEBRATED
H & L Axle Grease,
To which you have given so decided a preference for the last
FOURTEEN YEARS,
It is the only reliable article
IN THE MARKET
Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.
☞Be sure and ask for the H & L brand, and see that the
TRADE MARK H & L
IS ON THE COVER OF THE PACKAGE
NONE OTHER IS GENUINE.
FOR SALE IN EVERY STATE IN THE UNION.

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— FOR —
Mining and Prospecting Companies
Elegantly printed, with care and dispatch, at the office of the Mining and Scientific Press.
Orders from the interior faithfully attended to.

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CONSULTING ENGINEER,
Examiner of Mines, etc.,
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(Having had 33 years' experience in Europe and America,) supplies drawings and designs for Pumping, Hoisting, Crushing, Separating, Roasting, Chlorinizing, Milling, Lixiviating, Precipitating, and Smelting Works. Minerals analyzed, and advice given for beneficial treatment. Lessons on the Discrimination and Assay of Minerals by Blowpipe, Chemicals, Scorifier and Crucible. 4v17tf

JOHN ROACH, Optician,
Has removed from 522 Montgomery street to
540 Washington street,
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Surveying Instruments made, repaired and adjusted
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HAT MANUFACTURER
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AT WHOLESALE AND RETAIL.
635 and 637 Commercial street.....San Francisco.
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Corner of D and Second streets.....Marysville.
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Our wholesale House, 623 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

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POWDER COMPANY
Is now prepared to fill all orders for
GIANT POWDER,
Put up in Boxes, either in Bulk or in Cartridges.
General Agents,
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CARLOS O'DONNELL'S
California Cordial Tonic,
—OR—
Wild Cherry Bitters.
TRADE C. O. D. MARK.

This elegant preparation is acknowledged by all who have used it to be the most efficient remedy for every disease of the
STOMACH AND BOWELS,
Yet introduced to the notice of the public. Immediately on taking a dose of it, the patient will find a genial glow pervading his entire system, and its steady use for a short time will be followed by a healthy appetite and a good digestion, even in the case of the most confirmed dyspeptic.
To all who are suffering from
INDIGESTION,
DYSPEPSIA,
DYSENTERY,
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NERVOUS AFFECTIONS,
Or any of the manifold troubles caused by a diseased action of the stomach, this remedy is confidently recommended as a safe and certain cure.
N. B. JACOBS & CO., Sole Agents,
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OCCIDENTAL
Insurance Company,
OF SAN FRANCISCO.
Cash Capital, - - - - - - $300,000
GOLD COIN.
Office S. W. corner of Montgomery and California streets.
Fire and Marine Insurance.
All Losses paid in U. S. Gold Coin.
CHR. CHRISTIANSEN, President.
B ROTHSCHILD, Secretary. 20v17-3m

Agricultural.

Farm Nuisances.

Tbe farmers of California bave bnt few of the farm nuisances to contend with which so greatly trouble the agriculturists of the Eastern States. Briars, thistles, and the whole pestiferous swarm of self-propagating farm weeds, occasion but little trouble on the lands east of the Rocky Mountains. Destructive insects, too, are as yet comparatively unknown here. The apple and the plum are as yet undefiled by tbe caterpillar and curculio, wbich work such havoc to fruit in tbe East.

Still, we may not always be thus preserved from sucb nuisances. To-day we may muncb our apples with a perfect freedom from care, lest we mingle an unsightly, crawling worm with tbe savory morsel; but we are now informed that

THE ORCHARD CATERPILLAR

bas found a lodgment in Oregon, even before the railroad, by which it was predicted he would take an early passage, had been completed. A correspondent writes to the Willamette *Farmer* as follows:

Tbousands of caterpillars are destroying our fruit trees at the present time. They are all over the country. Every man who bas an orchard should see to it, and destroy them. Cut off tbe nests and burn them. It is only a few years since this pest began its ravages. They are increasing on us, and a few years' negligence will make them so numerous, with their unsightly nests, that we shall feel like leaving the country."

The fruit growers of California should begin to watch their apple trees closely; and promptly exterminate these vermin as fast as they make their appearance. A good way to get rid of them is given by Mr. Aiken, in tbo *Horticulturist*, as follows: "Take a pole, sharpen the end, wind a rag around it, well saturated with whale oil or petroleum, and with it destroy the nest, and it will never be rebuilt."

THE RATTLE WEED,

The botanical name of which we are not acquainted with, makes its appearance on our plains early in the spring, and is so called, in popular parlance, from the fact that it hears a pod or shell, which, wben ripe, witb its seed makes a rattling noise when shaken. This weed grows from a single root, tbat sends fortb numerous branches, which in good soil reacb a hight of some three feet; but in poor ground not more than one foot. It mucb resembles the mosquito bean of New Mexico and the "plaius."

According to the Tuolumne *News*, tbis weed bas recently got a very had name; and if the popular surmise is true, California farmers would do well to look after it with a sharp stick. It appears that in very dry seasons, when grass is scarce, borses will eat of this weed, and become afflicted with a disease of the brain, which, if it gets well estahlished, appears to be incurable, and renders the animal forever after nseless. Although it was some time before sucb sickuess was traced to this food, there appears now to be uo doubt as to the fact. Many fine horses have heen ruined by it in the San Joaquin Valley. Late in the fall, when almost everything but the rattle weed is dried up or consumed, borses and colts will eat it readily. It is said to be spreading, especially in cultivated portions of the valley, and it is fcared that stubble fields will soon be rendered unfit as pasturage for borses. Farmers should look closely after this new danger, and uso all diligence to secure its extermination.

WILD OATS.

In all the wide range of accepted maxims there is none which should be more thoroughly guarded agaiust than the "sowing of wild oats;" and this is as true in the vegetable as in the moral kingdom. Wild oats are universally indigenous in California, where their presence has usually been considered rather a blessing than otherwise. In all otber parts of the world tbey are carefully watched for, and the utmost pains taken to eradicate their first appearance. Hitherto they bave usually heen confined to uncultivated lands; but of late they are finding their way into our wheat and barley fields, wbere they will soon work incalculable mischief, unless tbe utmost care is taken to weed them out and employ clean seed. A very few branches of wild oats is sufficient to seed a considerable breadth of ground; and the fact tbat they ripen and scatter tbeir seed before tbe other grain is harvested, must teach the farmer tbe excessive annoyance which their presence in grain fields must soon produce; If they are sown, no matter how, they *will* come up, with long, tough roots and luxuriant stalks and leaves, as sure as the sun shines. As the plant is an annual, when a field becomes infested witb it, the best way is to put it into pasture for a year, and tbus let tbe cattle kill out the seed. If care is not taken, tbe wild oats which California farmers are now thougbtlessly sowing in their broad fields, will ere long produce a crop which they may find quite as prolific in physical difficulties, as are the moral vagaries so often sown broadcast, by those just enteriug upon the great field of human existence.

Curiosities of Sugar.

Sugar is the sweet principle of food, and is found in both plants and animals. It exists largely in milk, and is generated in the animal liver; hut commerce obtains its supply of sugar exclusively from vegetahles. It is found in the juices or sap of nearly every variety of plant, at certain stages of their growth. The plant appropriates the sugar in its sap to the perfection of its seed. In the seed it takes the form of starch, from which latter substance the chemist can again change it back to sugar, as is hereinafter shown. The following is the proportion of sugar obtainable from various sources:

	per cent.		per cent.
Sugar Cane Juice	16	Cow's Milk	3.3
Beet Root	8	Rye Meal	3.2
Wheat Flour	6	Peas	2
Barley Meal	5.2	Indian Corn	1.5
Oat Meal	4.8	Rice	.3

Sugar may also be obtained from the carrot, parsnip, pumpkin, Irish and sweet potatoes, and from all sweet fruits. Sugar can even he made from saw dust and all kinds of ligneous fibers—"old rags" included. The very paper on which this paragrapb is printed may he converted into sugar.

There are five varieties of sugar, only two of which enter into commercial use,—cane sugar and grape sugar; but known to chemists as *sucrose* and *glucose*. The latter contains only two-fifths as much of the sweetening principle as the former, that is, five pounds of grape sugar will go no further than two pounds of cane sugar.

One of the most interesting curiosities with regard to sugar is the fact that common starch is almost identical witb grape sugar, and may be readily converted into a beautiful, sweet, white syrup, that is really an excellent article for table use; but not very readily crystallized into sugar. The composition of starch is, $C^{12} H^{10} O^{10}$; that of grape sugar, $C^{12} H^{12} O^{12}$, 2HO; tbe only difference between the two heing a small excess of water in the latter. The process of this cbange is so simple that any one can try it, as follows:

Mix one part of sulphuric acid with 100 parts of water. Dissolve your starch, in boiling water, to a thick creamy consistency; take 50 parts of the same and pour it slowly into the acidulated water already prepared, and you will have a viscid, gummy substance known as dextrine. Now to get rid of your sulphuric acid, add to tbe mass pulverized chalk, which will unite with the sulphur that forms the acid and fall to the bottom as sulphate of lime. Pour off the clear liquid, evaporate to a proper consistency, in the meantime occasionally throwing in a little more chalk, and drawing off as before, until the acid is all removed. When boiled down to a syrup, filter through powdered charcoal, made from bones, and you have your starch converted into a beautiful, clear, sweet syrup, a large portion of which can be crystallized into sugar. In the transformation there is nothing but water added to the starch; the sulphur and cbalk that was added to the mass being all removed. It is said tbat common potatoes treated in this way will yield 10 per cent. of their weight in sugar.

By the same process a large percentage of saw dust or any other ligneous fiber, paper, flax, linen, and even "old rags," may be converted into sugar, witb the only addition that these latter substances must be boiled a long time in the acidulated water, so as to first change tbe fibrous matter into starch.

You will have, however, from all these substances, *glucose*, or grape sugar, instead of *sucrose*, or cane sugar. The latter can be easily degraded to the former; but tbe puzzle is to reverse the process. Tbe chief use of grape sugar is for the manufacture of wine, hrandy, beer, etc.,—for which cane sugar will not answer. The great difficulty in tbe way of manufacturing syrup and sugar from starch is the fact tbat starch is generally worth as much as sugar—a very important consideration involved in the economical valuo of the process.

New Mining Advertisements.

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpiuo County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of May 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, (up stairs) Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fourteenth day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. my22

Mining Notices--Continued.

Bowden Silver Mining Company. Location of works: White Pine, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of April, 1869, an assessment of five cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, 419 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty ninth day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

M. S. MARTIN, Secretary.

Office, No. 11 Hayward's Building, 419 California street, San Francisco. ap24

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth (5th) day of April, 1869, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
E C McComb	50	25	$25 00
E C McComb	91	55¼	55 25
Martin White	bal 5	150	150 10
Geo W Frasher	52	20	20 00
Geo W Frasher	53	20	20 01
Geo W Frasher	54	10	10 00
H W Hall	bal 45	25	25 00
John R Mead	49	50	50 00
A G Prince	58	10	10 00
R A Boyle	10	100	100 00

And in accordance with law, and an order of the Board of Trustees, made on the fifth (5th) day of April, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on Monday, the twenty fourth day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. my8

Dios Padre Gold and Silver Mining Company, Alamos, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-ninth day of April, 1869, an assessment of three dollars ($3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. C. McComb, corner of Broadway and Battery streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of June, 1869, to pay the delinquent assessment, together with costs at advertising and expenses of sale. By order of the Board of Trustees.

E. C. McCOMB, Secretary.

Office, cor Broadway and Battery streets. my1

Douglas Silver Mining Company.—White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth (6th) day of May, 1869, an assessment of twelve and one-half cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the eighth (8th) day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. my8

Daniel Webster Mining Company.—Location of Works: White Pine County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Black, J J	27	50	$5 00
Black, J J	28	40	4 00
Black, J J	29	50	5 00
Black, J J	30	500	50 00
Brower, Wm	53	10	1 00
Brewer, Wm	54	10	1 00
Brewer, Wm	55	5	50
Coupland, W F	71	100	10 00
De Ro, Chas, Jr	95	50	5 00
Evatt, W J	26	10	1 00
Farrington, Chas L	157	100	10 00
Hentz, A H	105	10	1 00
Hentz, A H	106	10	1 00
Hentz, A H	107	5	50
Jackson, Andrew	31	13	1 30
Jackson, Andrew	33	25	2 50
Jackson, Andrew	34	25	2 50
Jackson, Andrew	35	25	2 50
Jackson, Andrew	36	13	1 30
Jackson, Andrew	37	25	2 50
Jackson, Andrew	39	400	40 00
Jackson, Andrew	40	150	15 00
Jackson, Andrew	41	100	10 00
Jackson, Andrew	43	150	15 00
Jackson, Andrew	108	10	1 00
Jackson, Andrew	109	10	1 00
Jackson, Andrew	110	12	1 20
Jackson, Andrew	111	17	1 70
Proeschold, Chas	78	50	5 00
Strahle, Henry W	72	50	5 00
Strahle, Henry W	73	100	10 00
Strahle, Henry W	74	100	10 00
Strahle, Henry W	75	100	10 00
Strahle, Henry W	76	100	10 00
Stetson, Geo D	64	25	2 50
Stetson, Geo D	62	25	2 50
Stetson, Geo O	63	25	2 50
Spelman, John	77	50	5 00
Schord, L G	56	25	2 50
Taylor, Holmes	60	50	5 00
Taylor, Holmes	65	100	10 00
Thompson, Ira D	100	500	50 00
Thompson, Ira D	101	25	2 50
Thompson, Ira D	102	25	2 50
Thompson, Ira D	103	25	2 50
Thompson, Ira D	104	300	30 00
Wigmore, James	50	10	1 00
Wigmore, James	51	10	1 00
Wigmore, James	52	5	50

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of April, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 418 California street, San Francisco, on the thirty-first day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. A UHRIG, Secretary.

Office, No 418 California street, San Francisco. my15

French Silver Mining Company.—Loeation of Works: White Pine District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of May, 1869, an assessment of five cents (5c) per share was levied upon each and every share of the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh day of June, 1869, shall be deemed delinquent and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. my15

Marlborough Silver Mining Company.—Location of Works: White Pine District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of May, 1869, an assessment of five cents (5c) per share was levied upon each and every share of the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh (7th) day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. my15

Nuestra Senora de Guadelupe Silver Mining Company.—Location of Works: Tayollita, San Dimas District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of May, 1869, an assessment of two dollars per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, No. 210 Post street, or to the Treasurer, A. Himmelmann, No. 647 Washington street, San Francisco, **to settle the indebtedness of the said Company.**

Any stock upon which said assessment shall remain unpaid on the sixteenth day of June, 1869, shall be deemed delinquent, when **the payment will be enforced by law.** By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.

Office, No. 210 Poststreet, San Francisco, Cal. my15

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fifth day of March, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cozzens & Cleaveland	unpaid	10	$5 00
Gillig, John	unissued	440	220 00
Hearst, George	unissued	200	100 00
Martinez, Ladislao	unissued	80	40 00
McLaughlin, J W	unissued	1000	500 00
Paul, A B	4	20	10 00
Page, Sarah, Trustee	2	340	170 00
Wingard, A	unissued	960	480 00
Wade, W N	unissued	120	60 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Friday, the twenty-eighth day of May, 1869, at the hour of 11 o'clock, A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. my8

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price and address DEWEY & CO., Mining and Scientific Press office San Francisco.

Mining Notices.

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-sixth day of March, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Blake, Wm	63, 64	45	$22 50
Bell, Rosanna	6	30	15 00
Bidleman, E G	45, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100		
	101, 102, 103, 104, 105, 106, 107		
	108, 109, 111, 112, 113, 114, 115	1150	725 00
Bidleman, E G, Trustee	110	100	50 00
Carroll, John C	16, 17, 18	150	75 00
Comaford, P	31	15	7 50
Cornell, John	35	20	10 00
Downey, J P	58	5	2 50
Dillon, P W	32, 33	100	50 00
Farrell, Wm	unissued	30	15 00
Greene, Jessie E	1, 2	30	15 00
Herlehy, Michael	26	5	2 50
Hamill, John	66, 67, 116	45	22 50
Hastings, John	84	100	50 00
Kernan, Frank	60	30	15 00
Kenedy, James	unissued	15	7 50
Mulony, Martin	10	1	50
McMahon, Miss Mary	29	15	7 50
Murphy, John	62, 121	180	90 00
Neenan, Andrew	12	1	50
Neagle, Wm	64, 81	398	199 00
Newcomb, Thos, Trustee	47	100	50 00
Orkel, Chas	11	5	2 50
O'Neil, Margaret	46	5	2 50
Paul, A B	125	55	27 50
Schoeneman, Henry	5	3	1 50
Sheil, Michael	unissued	10	5 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-sixth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, California, on the twenty-eighth day of May, 1869, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. may7

Siempre Viva Silver Mining Company, District of Zarigossa, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of April, 1869, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco. ap17

POSTPONEMENT.—The advertisement of stock delinquent on the above assessment is hereby postponed until Saturday, the twenty-ninth day of May, 1869, and the sale thereof until Monday, the fourteenth day of June, 1869. By order of the Board of Trustees.

my22 JOHN F. LOHSE, Secretary.

Troy Ledge Mining Company, White Pine District, Lander County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the sixteenth day of March, 1869, the several amounts set opposite the names of the respective shareholders as follows:

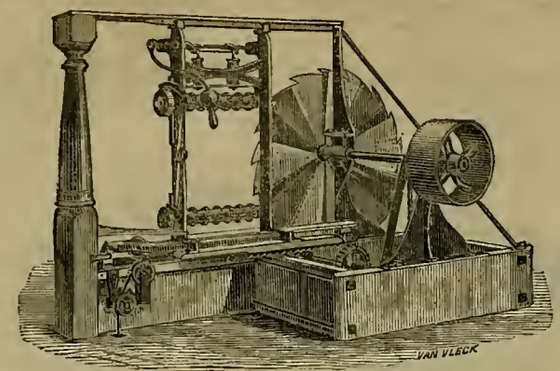
Names.	No. Certificate.	No. shares.	Amount.
G W Hodge	45	120	$18 00
G W Hodge	46	60	9 00
G W Hodge	47	60	9 00
G W Hodge	48	60	9 00
G W Hooge	50	60	9 00
G W Hodge	51	120	18 00
J C Harmon	59	10	1 50
J C Harmon	60	10	1 50
J C Harmon	61	10	1 50
J C Harmon	62	10	1 50
J C Harmon	63	10	1 50
J C Harmon	64	10	1 50
J C Harmon	65	10	1 50
J C Harmon	66	10	1 50
J C Harmon	67	10	1 50
J C Harmon	68	10	1 50
J C Harmon	69	10	1 50
J C Harmon	70	10	1 50
J C Harmon	71	10	1 50
J C Harmon	72	10	1 50
J C Harmon	73	10	1 50
J C Harmon	74	10	1 50
J C Harmon	75	10	1 50
J C Harmon	76	10	1 50
J C Harmon	77	60	9 00
J C Harmon	78	60	9 00
J C Harmon	79	60	9 00
J C Harmon	80	60	9 00
J C Harmon	81	60	9 00
J C Harmon	82	60	9 00
J C Harmon	83	100	15 00
J C Harmon	84	100	15 00
J C Harmon	85	100	15 00
J C Harmon	86	120	18 00
J C Harmon	87	120	18 00
W I Nichols	13	10	1 50
W I Nichols	14	10	1 50
W I Nichols	15	10	1 50
W I Nichols	16	10	1 50
W I Nichols	17	10	1 50
W I Nichols	18	10	1 50
W I Nichols	19	10	1 50
W I Nichols	20	10	1 50
W I Nichols	21	20	3 00
W I Nichols	22	30	4 50
W I Nichols	23	60	9 00
W I Nichols	24	60	9 00
W I Nichols	(No Certificate)	1590	238 50
C W Stevens	balance 91	100	6 67
C W Stevens	balance 92	100	6 67
C W Stevens	balance 93	100	6 67
C W Stevens	balance 94	100	6 67
C W Stevens	balance 95	100	6 67
C W Stevens	balance 96	100	6 67
C W Stevens	balance 97	100	6 67
C W Stevens	balance 98	100	6 67
C W Stevens	balance 99	100	6 67
C W Stevens	balance 100	100	6 67
W J Mowrey	102	18	2 70
J G Mitchell	127	12	1 80
J G Mitchell	128	12	1 80
J G Mitchell	129	12	1 80
J G Mitchell	130	12	1 80
J G Mitchell	131	12	1 80
J G Mitchell	132	12	1 80
J G Mitchell	133	24	3 60
J G Mitchell	134	24	3 60
J G Mitchell	135	24	3 60
J G Mitchell	136	24	3 60
J G Mitchell	137	24	3 60
J G Mitchell	138	36	5 40
J G Mitchell	139	36	5 40
J G Mitchell	140	36	5 40
J G Mitchell	141	60	9 00

And in accordance with law, and an order of the Board of Trustees, made on the sixteenth day of March, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, San Francisco, on Monday, the twenty-fourth day of May, 1869, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco ap24

HUNTINGTON'S IMPROVED SHINGLE MACHINES.



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" 2	" "	4½	"	16	" 18	"	5 " 20
" 3	" "	6	"	18	" 19	"	5½ " 22
" 4	" "	5½	"	18	" 20	"	6 " 22
" 5	" "	6	"	20	" 21	Poll	4 " 20
" 6	" "	6½	"	22	" 22	"	4½ " 20
" 7	" "	7	"	24	" 23	"	6 " 20
" 8	Flat Eye surface	4	"	16	" 24	"	6½ " 20
" 9	" "	4½	"	16	" 25	"	5 " 22
" 10	" "	6	"	18	" 26	"	5½ " 24
" 11	" "	5½	"	18	" 27	"	7 " 30
" 12	" "	6	"	20	" 28	Coal	2 " 15
" 13	" "	6½	"	22	" 29	"	2½ " 15
" 14	" "	7	"	24	" 30	"	3 " 16
" 15	Drifting	3½	"	18	" 31	"	3½ " 16
" 16	"	4	"	18			

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INCORPORATED OCTOBER, 1868.

PROSPECTUS.

OBJECT.—The object of this Association is to secure a cash payment, within sixty days after the death of a subscriber, to his or her heirs or assigns, of as many dollars as there are individuals of the class to which said deceased subscriber belonged.

MEMBERSHIP.—The subscription fees are Ten Dollars at joining, and One Dollar on the death of each subscriber. The One Dollar from each subscriber is paid to the heirs or assigns of the deceased.

THE FUNDS.—The By-Laws of the Association require that a portion of the money received as subscription fees shall be a Sinking Fund to meet assessments falling due by the delinquencies of subscribers. The balance of the money received to be used for the payment of the expenses incurred by the Association.

MEMBERS.—A subscriber failing to pay his or her assessment of one dollar within Thirty days from receipt of notice forfeits his or her Certificate, and all claims upon the Association, unless good cause is shown for further delay. A subscriber can forward money in advance, which amount will be credited on future assessments. The subscribers are divided into classes including males and females Each class is limited to 5,000 subscribers. As classes are filled, new ones will be formed. No person is so poor that he cannot pay Ten Dollars at joining and One Dollar occasionally, thus securing $5,000 to his or her heirs or assigns.

ADVANTAGES.—The advantages of this Association are, that no *money panic* can affect it. Its benefits are easily obtainable by all, and every subscriber added to the Association enhances the interest and protection of all; the amount paid being so small, and only at long intervals, that any person can secure for his family a competency upon his death.

CLASSES.—In Class A, all persons between the ages of 15 and 40 years; in Class B, all persons between the ages of 40 and 60 years.

Any one that has not stated his or her age correctly, will forfeit all money paid and his or her Certificate.

One class cannot be assessed if one of another class dies. Classes have no connection with each other.

HOW TO BECOME A MEMBER.—A person desirous of becoming a subscriber must fill out an application, and forward with it Ten Dollars by Check, Draft, or by Express, in gold or silver coin. Persons can pay agents, when regularly appointed and authorized to receive money. Each subscriber should interest himself in obtaining new members, by so doing all are benefited.

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All communications should be addressed to the Secretary of the

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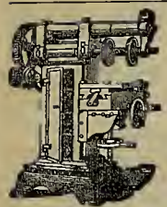

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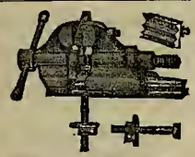

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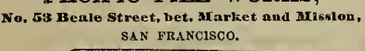

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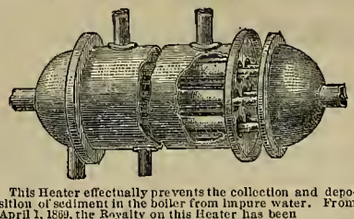

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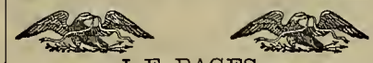

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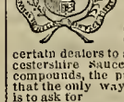

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[Written for the Mining and Scientific Press.]

Virginia City Mining Topics.

EDITORS PRESS :—About Virginia there is more activity and prosperity than is generally supposed. Independently of the Comstock, there are several mines that afford considerable employment, and give evidences of future great value. Among these may be cited the Sierra Nevada, Senator, Cole, Julia, Flowery, and Occidental. The latter is not least, by any means, as it promises to be second hardly to the regular Comstock lode; yielding as it does from $20,000 to $30,000 of bullion monthly. The others have low grade ore with better in prospect.

The Cole, however, has quite a body of ore which assays high; but for some reason it is hard to work out.

Other outside lodes are being opened, with high hopes of their proving of value. The strike made some weeks ago in the lowest workings of the Hale & Norcross, has revived interest and confidence in the Comstock, which amounts to considerablo in making work along the line more active.

The Ophir and others are pushing tunnels and shafts to develop new riches, with vigor.

Taken altogether, the prosperity of Washoe for the present season is unmistakable.

At Gold Hill there is the same life, save the troubles occasioned by the late fires. The Empire-Imperial are cutting the lode, but not with the encouragement that they would like. The vein matter in these mines seems to be of good enough proportions, but it carries so little of pay ore as to be of no value, save to fallow. These companies have had a long run of prosperity, and it is nothing more than they should expect now to have a little run of bad luck. Such is mining. The companies are showing sufficient energy to entitle them to prosperity again.

The other mines are moving as usual, save Crown Point and Kentuck, which are bothered on acconnt of the fire.

On American Flat several leads are being opened. The American is producing large bodies of low grade ore, and promises to be a good mine.

Mills in and about Gold Hill are kept running, and to the general observer there is as much life as there was five years ago.

About Silver City there is renewed life. The prosperity attending the Twin mine, under tho management of Mr. Samuel Chapin, the main owner, has given quite an impetus to this section. The Twin has produced lately, some $10,000, monthly, though working on a somewhat limited scale. In one of the lower levels of this mine lately, a stratum of ore greatly resembling the Comstock, was struck, and which, by assay, runs over $100 per ton.

The question as to whether the Comstock does not continue down Gold Cañon, and begin to rise at about this juncture, has been one long mooted. From the Devil's Gate, or down to Johntown, at intervals on the liue, a number of mines are being opened, and which pay better even than what is now the average of Comstock ores, viz., from $15 to $150 per ton. The average of the Twin for the past month has been about $60 per ton.

The amount of ground embraced in this location more than equals that of Imperial, Empire, Yellow Jacket, Crown Point and Kentuck combined.

A shaft sunk on the old Emigrant produces ore so like the Comstock that one will pass for the other—the ore, however, is of poor quality. About Silver City there are more paying strata and prospective mines than even about Gold Hill and Virginia (outside of the Comstock), and during the comiug summer we would not be surprised to see a number of as prosperous mines developed as the Twin.

The Independence, between Gold Hill and Silver City, are pushing their work with vigor and with very fine prospects, in fact, recently, several small strata of good ore have been struck, giving high hopes of larger bodies near by.

* * *

MINING AND SCIENTIFIC PRESS.—This useful and scientific journal has entered upon its eighteenth volume.

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Gold Ink may be made by grinding gold leaf to an impalpable paste with pure honey on a hard slab, with a muller; collect and dilute the paste in a glass vessel with water. The gold will settle in a bright powder, while the honey may be all dissolved out by repeated washings. To use as an ink, mix the powder with a little gum water, as wanted; write, and when dry, burnish with a piece of ivory. The effect is beautiful. Silver ink may be made in the same manner.

Essence of Coffee is sold in Cincinnati, made of dirty molasses, boiled down dry, cooled and pulverized, and mixed with a little finely pulverized burut ryo and coffee.

The Australian Gold Fields.—"An impression has got abroad in England that all the rich holes have been hit upon, and made to yield up their treasure. Every day's experience in the colony proves this notion to be utterly erroneous. Even in and about Ballarat, which early won the reputation of being the most magnificent El Dorado the world had yet known, there are 22 mining companies to be named that have returned to their shareholders dividends of 2,225,000*l.*, on a called-up capital of barely 890,000*l.*, and yet this sum has been obtained, over and above expenses, from only 250 acres, out of an area of 3000 acres held by them on lease or otherwise; 40,000,000*l.* sterling have been taken up from the ground now covered by the houses and streets of Ballarat; and there are indications unmistakable to the miner, now instructed by 15 or 16 years' experience, that the course of the river which once bore the gold in its waters has but to be followed, and deposits greater than any yet found will reward a scientific and persistent search."—*London Mining Journal.*

The Dighton Rock.—This rock, near Taunton, Mass., bears an inscription,—says the Taunton *Gazette*,—which has given rise to much speculation. Many antiquarians have studied it. "Mr. Harris, the learned orientalist, thought he found the Hebrew word *melek* (king) in the inscription. Col. Vallancy considered it of Scythian origin. The Rhode Island Historical Society caused a carefully prepared drawing of the rock to be sent to the Royal Society of Antiquaries of Copenhagen, by whom it was submitted to Professor Rafn, the eminent Runic scholar, and learned associate, Professor Finn Magnusson. A part of the inscription they declared to be in the Runic character, and to read: "On this spot landed Thornfenn with one hundred and thirty-one men." Various drawings have been made of the rock and its inscription, differing in essential particulars; but last summer a successful attempt was made to photograph the rock with a large plate, and the inscription may now be critically examined by the antiquarian."

The Tyranny of Labor.—Thirty years ago, the practice of hardening needles in oil instead of water, was revived in Birmingham. Needles hardened in water were generally made crooked in the process, and this circumstance gave employment to a considerable number of "straighteners." The oil-hardened needles were invariably straight, and thus a large selection of local craftsmen found, like Othello, their occupation gone. A determined volley of abuse was poured on the unfortunate reviver of this process. He was several times mobbed, and ultimately driven from the town."—*The Engineer.*

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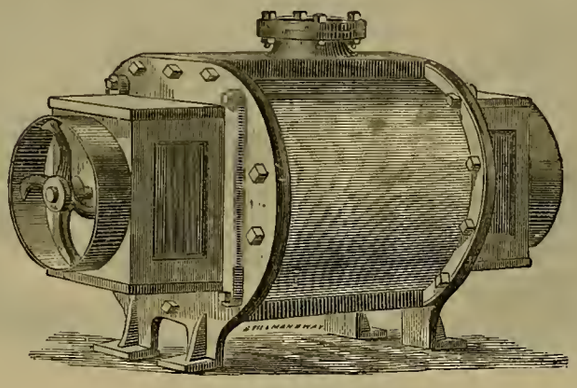

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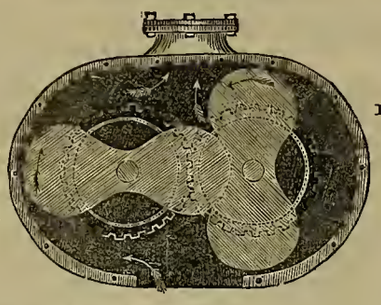

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MESSRS. DEWEY & CO., Patent Agents.—*Gentlemen:*—Allow me herewith to tender you my sincere thanks for the efficient assistance you have rendered me in securing my patent, and other papers, as well as the promptness and energy displayed by you in our business transactions. Very respectfully yours, C. E. JAYCOX.

NEVADA CITY, Nov. 3d, 1868.
MESSRS. DEWEY & CO.—Gentlemen:—Your favor of the 30th ult., is just received, informing me of the successfull prosecution of my application for a patent on my "Hair Cutting Shears." Please accept my sincere thanks for the speedy and successful manner in which you have conducted the case, and believe me, as ever,
Very truly yours, LEE D. CRAIG.

GRASS VALLEY, Dec. 2, 1868—*Messrs. Dewey & Co:*—Having received the patent for Symons & Co's Tossing and Refining Concentrator, through your Agency, we return our sincere thanks to you for your unrivalled success. Yours, respectfully, SYMONS & HARRY.

We have had frequent occasion to have business relations with the patent agency connected with this establishment, and have had nothing left to desire in regard to it. Fidelity, promptness and courtesy, soon arranged everything for us to our complete satisfaction. Having had frequent delays at Washington while in that city, we have been surprised at the promptitude with which some of our friends obtained their patents through the agency of Messrs. Dewey & Co.—*S. F. Spiritual Light.*

LEXINGTON, April 3, 1869.
DEAR SIRS:—The Letters Patent have just come to hand. For the prompt and business-like manner with which you have put the matter through, please accept my thanks. GEO. W. TEASDALE.
To DEWEY & CO., Publishers M. & S. Press.

STOCKTON, April 8th, 1869.
MESSRS. DEWEY & CO.:—Your favor of the 6th inst., accompanying patent for improvement in horse shoes, is received. I beg you will accept the earnest assurance of my gratitude for your kind assistance and valuable services. Very truly yours, W. R. WATSON.

THE MINING AND SCIENTIFIC PRESS is one of the most useful publications on the Pacific Coast.
Messrs. Dewey & Co., the publishers, are United States and foreign patent agents, and from their intimate connection with the Patent Office, are enabled to furnish their readers with all the latest patents and improvements pertaining to labor-saving machinery, etc. We bespeak for this excellent paper a lengthy subscription list in White Pine.—*White Pine News, April 23.*

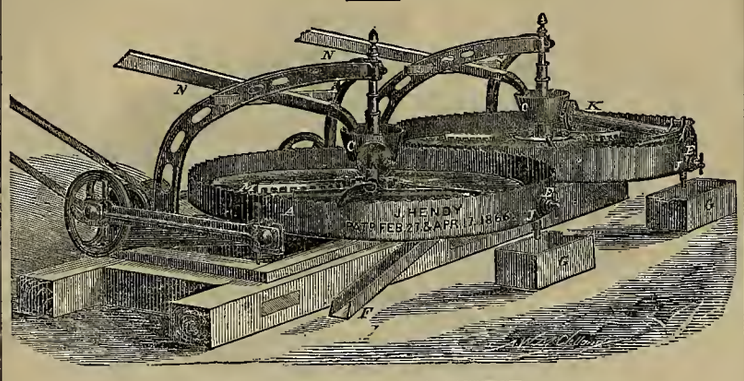
PORTLAND, Oregon, May 2, 1869.
MESSRS. DEWEY & CO.—*Gentlemen:*—Receive my kindest thanks for your attention in the matter of bringing my application for a Patent to a successful issue.
THOMAS MANN.

REASONS FOR SUCCESS.

We would especially call the attention of the inventive public to the fact that our Patent Agency is taking out a larger number of Patents than any other agency west of the Mississippi River. We do our work promptly and thoroughly, and refer to our standing amongst inventors as an evidence of our success in our special department. Our work is all done inside of our office, BY COMPETENT AND RELIABLE PERSONS, who have been for years interested and associated with us. We therefore are not compelled (like many agencies) to trust valuable and important inventions promiscuously to outsiders, to have part of the case prepared, but inventors can depend that, from the time their cases are first placed in our office, they are kept with proper secrecy until full rights are secured in the Patent Office in Washington. This is an important point in the proper prosecution of Patent business. It is a notorious fact that some prominent agencies trust a considerable portion of their cases to apprentices and amateurs. A deficiency or want of attention to the small affairs of any kind of business will often prove as harmful as a flagrant violation of the most important rules which govern and control it.

DEWEY & CO.,
Patent Solicitors, Mining and Scientific Press Office, 414 Clay street, below Sansome, San Francisco. MAY, 1869.

PREMIUM FOR BEST CONCENTRATOR
AWARDED BY THE
MECHANICS' INSTITUTE, 1868,
ALSO AT THE STATE FAIR FOR 1868,
To J. HENDY.



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MR. HENDY, by diligent and practical application, has improved his Concentrators until they now stand unrivalled, far in advance of any yet brought to public notice.
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Stronger and more Durable than Ever.

OFFICE OF NORTH STAR MINE, GRASS VALLEY, Nov. 12, 1868.
JOSHUA HENDY, ESQ.—Dear Sir:—I take pleasure in certifying to the efficiency of the two last Concentrators ordered from you. We have run them steadily since July last, with but a very trifling expense for repairs. The additional length of step is a decided improvement. The first six sent to us have run steadily for nearly nine months, and are still doing good work. * * * The concentrations from the eight pans alone much more than pay our entire surface expenses. Without them we should lose a large proportion by any system of concentration now in use. The eight Concentrators receive the pulp from our 24 stamps, which are crushing 1,040 tons per month. Our sales of Sulphurets last month amounted to 70 tons, or nearly 7 per cent. of the mass crushed. The sulphurets from the reconcentration, contained about 10 per cent. sand. In addition to their properties as concentrators, they have done us good service as amalgamators, they having saved us the past month 50 ounces of hard amalgam, worth $350, which otherwise would have been lost.
Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.
Office at Union Iron Works.
13v17tf

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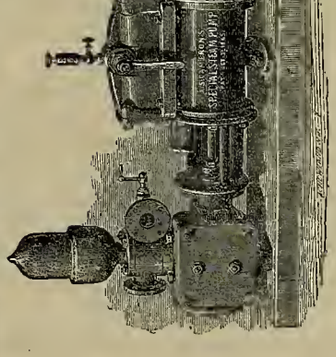

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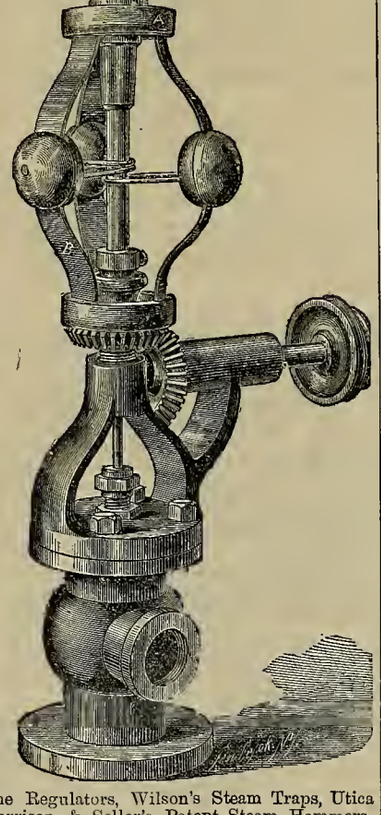

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, MAY 29, 1869.

VOLUME XVIII. Number 22.

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The Late Rains and the Crops.

There seems to be a diversity of opinion among the interior papers with regard to the general effect of the late rains on the incoming crops. No doubt damage was done in some quarters, while in others much benefit was derived. We incline to the opinion, that, on the whole, the rain has been an advantage; although such advantage would have been much more strongly marked had it fallen two weeks earlier. The fall was quite universal all over the Western Slope, from British Columbia to Northern Mexico.

The only damage, and that not serious, appears to have been confined to the central portion of this State. The most of the injury done was to grain and hay which had been cut. There was but little of the former down, and for every ton of the latter that was destroyed or seriously damaged, hundreds of tons of new and better grass has been put forward, that will go so much to increase the crop which will be cut the coming month.

The rain will bring money to the pockets of the mountain farmers, everywhere. Their hay was not ready for cutting, and their grain was in just the condition when a late rain would do it the most service.

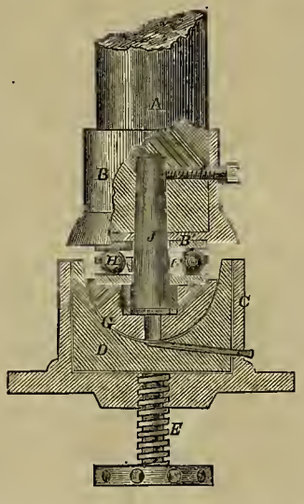
Reports reach us of serious damage to wheat from rust in the Salinas Valley, where in some places it is said the crops are entirely ruined, so much so that the fields will not be harvested. The local papers bring similar reports from the crops about Suscol, Napa and Sonoma; but the damage in these localities is not so general or so bad. It is also reported in several localities that worms are injuring the grains. Such reports should be received with a great deal of allowance, as they are too often circulated in the interest of speculators.

On the whole we may expect a grain crop, the present season, fully equal to, if not in excess of last year. The summer has been rather a dry one, and the grain, in consequence, not quite so full in its yield; but the increased breadth of land sown, will more than make up any deficiency which may occur from lack of moisture.

The vegetable and fruit crops are doing remarkably well, particularly the latter. Our market has been fairly glutted with strawberries, and we are just now in the hight of the cherry season. This fruit was never more abundant and tempting in this market, than it is now. The most of the cherries which reach this city are grown in Alameda County. Large shipments are also received from Santa Clara, Napa and Sonoma. Increased attention appears to be given to this delicious fruit; but there is no danger of the market becoming overstocked.

Improved Step for Vertical Shafts.

Heavy vertical shafts which frequently weigh as much as four tons and upwards, require a setting of a most substantial and durable character; and the adjustment in case of a slight sinking out of level of the foundation should be easy and not necessitate many days' delay for repairs at great expense. None of the shaft bearings now generally in use, come up to the proper requirements. The ordinary plan is to set the end of the shaft on a bed of iron disks placed in a socket; but these occasion much friction and heating, and are apt to clog with each other, the effect of which is precisely the same as if there were no disks at all.



Messrs. Bennett, Purinton and Siebert, of Nevada City, Cal., have devised and patented through Dewey & Co's Agency, (Dec. 1, 1868) the arrangement represented in the accompanying engraving, which applies to shaft bearings two novel principles, both of which are essential in accomplishing the operation of a non-heating and self-adjusting vertical shaft step. The end of the shaft rests and rolls on five or six steel balls H (of any size) which are kept in place by a disk, here indicated by I, having holes into which the balls fit loosely. The second principle is to secure self-adjustment in case that the shaft foundation should sink,—as it generally does—a little out of level. This is effected by means of a semi-globular casting, F G, which fits into the socket G. If the foundation, C D, should alter in its level, no parts affecting the revolution of the shaft are changed, the half globe sliding so far in D as to keep the friction plates F and B parallel, and in perfect adjustment by the motion of the shaft itself. The details will be rendered further comprehensible from the following references:

A is the shaft; B a cap inclosing the bottom, for the purpose of holding the hardened steel plate B'; J a spindle to prevent lateral motion; D a part of the foundation set movably into the stationary foundation C, in order that the entire shaft step, and shaft included, may be raised or lowered by the screw E, in case of any settling in the ground foundation. The guide I is so pierced for the balls that none of them run in the same track with each other, but vary about 1-16 of an inch. The balls and plates should be tempered alike, and as hard as possible.

This bearing has been tried in the Nevada Flouring Mills, carrying a shaft of 3,500 lbs, which has been running since the 1st of March last, showing no perceptible wear, keeping in perfect order, and giving full satisfaction, according to the certificate of Messrs. Torson & Clark, proprietors, who do not hesitate to say they believe it to be the best in use.

The cost of bearings for the above-named capacity is estimated in the neigborhood of from $75 to $100.

Messrs. Hinckley & Co., of the Fulton Foundry, are the agents in this city.

THE DISABLED MINES.—The shafts of the Kentuck and Crown Point mines, which were opened last week, as also the drift connecting them with the Yellow Jacket, gave the latter plenty of good air at the lower levels, but also sent clouds of hot and steamy vapor up through the Crown Point and Kentuck shafts. The Yellow Jacket is working about half its usual force, and the Kentuck is also sending out considerable ore; but nothing is being done with the Crown Point, on account of the bad air. Efforts are being made to conduct the bad air directly out from the mine. It is feared the fire is not yet fully extinguished, but there will be no more efforts to smother it; if anything more is to be done it will be to give the fire all the air it wants, and let it burn itself out. There are still three bodies not yet recovered.

EARTH MOVEMENT INDICATOR.—We are informed by Mr. F. A. Herring, that he designs the float in his earth-movement indicator to be of metal instead of wood, as the latter would expand unevenly in water, and so alter its center of gravity. The instrument should be at least 60 feet in length, the upright 30 feet in length. In a circle of 60 feet diameter a second of arc is only the 1.582 of an inch, or an inch in a circle 6¼ miles in diameter, an amount too small to be perceived and measured by the unassisted eye.

The Iron Moulders' Union and friends, went pic-nicking to Point San Quentin, Marin County, on Sunday last.

The Grass Valley Strike.

Matters in Grass Valley remain much as they were at the date of our last issue, especially so far as the strikers are concerned, who still hold out; while the superintendents, acting under instructions from the owners, positively refuse to work their mines under the dictation of the Miners' League. In the meantime the Empire mine has advertised for 100 single-handed drillers, and has had numerous applications, mostly Americans and Germans. The new men say they are not afraid of any kind of powder, or of powder burnt under any kind of circumstances—have smelt powder before. These works will probably be started up again in a day or two.

Quite a number of Canadian Frenchmen who have been accustomed to single-handed drilling, have applied for work at the Banner mine, in Nevada, and have found employment, in place of others who refused to work as their employers desired.

There has been considerable talk about employing Chinamen in the mines, at cheap rates; but we presume the employers will find plenty of white men who will be willing to work at old prices, with single-handed drills and Giant Powder. The policy of introducing Chinamen into underground work is a questionable one; and we presume no employers will adopt such a course, unless they are forced to it by the unreasonable demands of white miners.

As we said last week, the miners of Grass Valley have committed a great mistake, and their course will react upon themselves. They have unwittingly been the cause of most effectually advertising the benefits of Giant Powder and single-handed drilling; which will hereafter be very generally resorted to in localities where their advantages have not heretofore been known.

In conclusion, we heartily endorse the sentiment of the Nevada *Gazette*, which expresses none but the kindest feelings towards the miners who are engaged in this movement. "Miners compose a large and respectable class of our population. They are the bone and sinew of the State. They are industrious, hardy, and many of them highly intelligent. They are entitled to a respectful hearing at the bar of public opinion;" but they should not claim to dictate to their employers as to how the mines should be worked, or threaten violence in case their demands are not complied with. We trust a sober, second thought will prevail among them, and that they will again go quietly to work, to the end that peace and harmony may once more prevail between all concerned.

WELL KNOWN MINE FOR SALE.—The Golden Rule mine and works, located in Tuolumne County, California, is offered for sale, as fully explained in our advertising columns. The mine is being successfully worked, and regular dividends have been reported for the past two years in the regular San Francisco stock reports. The offer is worthy the consideration of capitalists.

[From Rowlandson's "Earthquake Dangers, Causes and Palliatives."—just published.]

Palliatives, Suggestions and Conclusions

Truth compels the admission that a portion of California, including the locality around San Francisco, is, at indefinite periods, subjected to the action of earthquakes. It fortunately so happens that the physical geography around this city is of such a character as to largely modify, if not wholly obviate, many of the dangers which are found sometimes to occur when earthquakes take place at or near the seaboard. Allusion is here more particularly made to ocean earthquake-waves and landslips. The first is not found generally destructive, excepting in the cases of harbors immediately open to the ocean or near the *debouchure* of bell-mouthed rivers or bays. Landlocked as the harbor of San Francisco is, even if an earthquake ocean-wave sixty feet in hight was to break on our outlying western shore, it could only penetrate into our harbor by the width of the narrow passage of the Golden Gate, which, as it rapidly expands after its entrance, to the north, south and east, within a short distance from the narrowest part, and would have to travel some miles before its effects could be felt at San Francisco, ere its arrival at which point its force would be much modified by the resistance it would have received, by the various rocks and islands which it would have to pass in the course of its progress.

The other danger that we are not likely to encounter to any ruinous extent, is that which might probably arise from landslips, notwithstanding the extension of the city front into the bay, from time to time, through the interested influence of speculating land-grabbers, with former legislatures; as much as possible, has been accomplished to bring about so undesirable events as landslips. Owing to the fact that our bay is comparatively a shallow one, we are not likely to witness a newly and solidly constructed wharf, as in the case of the earthquake at Lisbon, destroyed and replaced by deep water, in consequence of a landslip. Though partial fissuring amongst the unstable ground of our water lots may take place, and irregular shrinking and elevation of foundations so situated, may occur; sufficiently so as to be calculated seriously to damage massive and elevated brick or stone structures which may be erected on such *made* and generally unconsolidated ground, but a serious landslip need not be apprehended.

In fact, as is well known to its residents, the damage caused by earthquakes at San Francisco and around its bay, almost wholly took place on alluvial soil, or made ground, as at Lisbon, the South American cities, and many other places; the next greatest amount of damage having occurred where buildings had been erected on foundations most nearly allied in characteristics to those just noticed. Notwithstanding the explanations given and the opinion expressed by Mr. Mallet, I am inclined to believe that greater danger *does* exist to dwellings placed upon deep, alluvial soil than when erected upon a rocky foundation. Exceptional cases may occur, and doubtless have occurred, but such exceptions, I suspect, will go to prove the general correctness of the opinion which I have expressed.

With Mr. Mallet I believe that the greater danger to erections placed on alluvium arises from the amplitude of the wave being greater in such strata than when passing through solid rock. It is a noteworthy fact that although the great earthquake waves which accompanied the South American earthquakes of last year, and also the previous one at the Saodwich Islands, which accompanied the last great volcanic outbreak in that locality, were most distinctly indicated by the self-registering tide gauges at San Diego and Fort Point, while not the slightest oscillation was noted for the California earthquakes of Octobers, 1865 and 1868,—a pretty satisfactory indication, coupled with the fact that the shocks on those occasions were scarcely felt at the south and east of the Bay of Monterey, that the focus of these earthquakes must have existed somewhere between San Francisco and the bay named. Indications exist, also, that the focus must have laid between the Pacific Ocean on the west and the San Joaquin Valley on the east, on the occasions named.

Sufficient has been stated in the previous chapter to make it readily comprehensible to ordinary minds in what consists the mechanical character and effects of an earthquake; with the dissipation of the mystery which has so long enshrouded this subject, owing to the frequent anomalies which have been observed to accompany this phenomena, and formerly unaccounted for, much of the alarm which earthquakes are calculated to excite will disappear also, at least from all reasonable minds, especially if proper precautions are taken to erect our structures in future, and to adapt those already existing, to meet those telluric phenomena in the several forms in which we may anticipate their occurrence. There can be no doubt that earthquakes *may* occur, such as those at Riobamba and Jamaica, when Port Royal was destroyed, owing to the force and steep emergence of the shocks which took place at those places, from the effects of which no human structure could be erected capable of withstanding unscathed their disrupting influence. Such cases, however, occur very sparsely, as sub-ærial phenomena, but there does exist the strongest reasons for believing that by far the most tremendous earthquakes that have occurred, to the effects of which only, can the geologist point out some of the chief phenomena connected with that branch of his science which is connected with upheaval, have been subaqueous, and if space permitted, it could easily be shown that earthquakes, most probably, are far more numerously of subaqueous than of sub-ærial origin, after making all proportional allowances for the difference of surface occupied by water and land.

Although the subject of palliatives to the destructive consequences which may occur to buildings in consequence of earthquakes, was one which the writer originally proposed to have dwelled upon at some length, it never was contemplated by him to enter into much details, deeming such belonging more particularly to the architect. The lessons derived from earthquakes, relative to the erection of buildings, whose exteriors are to be composed of materials almost wholly obtainable from the mineral kingdom, are that these materials should, when used for this purpose, possess as much homogencity as possible, with a certain amount of flexibility. Rigidity in a wall and its almost constantly corresponding accompaniments, — hardness and sonorousness,—being favorable to the transmission of the shock upwards, and so calculated to throw off the uppermost series, especially if such happen to be ornamental work, unattached excepting at the base. It can scarcely be doubted that it was from this cause that at the earthquake in San Francisco, October, 1868, several instances took place of such ornamental stone-work being thrown from their positions, when surmounting buildings entirely constructed of stone and cemented with the best mortar, yet in their immediate vicinity, ornaments on brick buildings remained undisturbed, notwithstanding they had not been so well cemented into their places, and at the same time possessing forms and magnitudes better calculated to promote their overthrow. It would therefore be decidedly erroneous to select materials for building merely on account of the qualities relating to rigidity and strength, for under the rapidly dynamic influence of an earthquake shock, rigidity may easily fracture where flexibility would be uninjured.

In wood we have a flexible material, and it has been proposed to remedy the inflexibility of stone, and brick-work, by the introduction of timber-studs and tie-beams into walls. Buildings, so erected, if they did not give way partially or wholly at the first heavy earthquake shock, would, in a short course of years, be likely to become very much racked in an earthquake country by the repetition of small ones, as a consequence of the incongruous character of the associated material,—a marked instance may be noticed, by referring to the San Leandro Court House, on the occasion of the earthquake of 1868. After carefully weighing all the circumstances that are associated with the employment of mineral substances or timber, alone or in combination, for the construction of exterior or interior walls, the balance of evidence appears to be in favor of using these substances alone for those purposes; their difference of elasticity and limits of fracture being so very great. The modulus of elasticity of brick-work might however be considerably increased by making bricks somewhat thinner, say only two inches in place of two and a half inches in thickness, this combined with the fact that such diminished thickness of brick would be accompanied by a proportionate increase in the amount of mortar used, would conduce to a much greater homogeneousness of structure, provided the English bond,* according to the strict meaning of the term, is invariably employed, that, viz: every course of stretchers is always immediately overlaid by a course of beaders, and this rule ought to be enforced under severe penalties, the non-attention thereto, accompanied by the use of bad mortar, have been the sole causes of the destruction of life and chiefly of the destruction of property occasioned in this city by the earthquake of the 21st October, 1868.

A few words may be said respecting the most desirable size of bricks to be employed in the future construction of buildings. The Roman brick is described as having been seventeen inches in length by eleven in width; thickness I have not seen stated, inferring, however, from specimens which I have seen of Roman brick-work at the Flint Lead and Alkali Works, occupied by me before they were purchased by the present owners, Messrs. Muspratt & Co., I am induced to believe that they were comparatively thin, for those which I am acquainted with, found *in situ* as above stated, did not probably exceed more than one and a half, or at the outside, one and three-quarters inches in thickness. They were not, however, either so long nor so wide as the example first cited. A convenient size, in my opinion, would be 12x6x2 inches. Such a form, I believe, would add greatly to the limits of the elasticity of a wall erected therewith, as compared with another composed of ordinarily sized bricks, and if the upper stories or story of a very elevated building was constructed of hollow bricks,† and all well bound together by the very best made *lime* mortar. I have no doubt that buildings formed of walls so constructed, if erected on a solid foundation, would withstand earthquake shocks equal to those which in part destroyed Lisbon on the 1st of November, 1755, and desolated such a large number of cities in the kingdom of Naples on the 16th of December, 1857, or the South American ones which occurred during the fall of last year.

*As far as I can learn from builders, the term Flemish bond is employed in San Francisco for a mere modification of English bond.

†The advantages of using hollow bricks for the upper parts of high buildings can only be slightly referred to. One of the chief advantages obtained by their employment, consists in their greatly reducing top-weight. It is by no means improbable that the thinness of Roman bricks was the result of observing the better adaptability for resisting earthquake shocks. The chief opposition to the use of bricks of the size which I have named above, will most probably come from the workmen, as they will not be quite so readily grasped as one of four inches width.

Waste of Power.—The friction of an engine, in good order, is variously estimated at from five to eight pounds to the square inch. Often, by the use of poor oil, and allowing the engine to get out of order, this resistance is increased to twenty-five per cent. and more. It is not unfrequently the case that, from allowing shafting to get out of line, belts to be laced up too tight, and the use of unfit lubricating material, thirty pounds of steam will be required to run the engine and shafting, when less than half that amount should be required. Fifteen pounds of steam are thus lost, to say nothing of the extra wear and tear from running machinery when out of order. Very few persons are aware of the loss of money from want of power and neglect of machinery.

Idaho Correspondence.

Editors Press:—Lack of news has kept me silent for some weeks, and even now I do not know that there is much worth noting.

RETURNED FROM WHITE PINE.

Mr. Martin Clark and many others have returned from White Pine, disgusted, and the former gentleman, who was engaged in the White Pine districts prospecting, and carefully examined the various lodes of that (for no assignable reason) renowned quartz mining district, has since been to Yuba, in Altnras County, and examined that camp thoroughly, and he says that the poorest mine he saw there, if in White Pine, would create an intense excitement. He says he is satisfied to go and get a hold in that camp, as it is the richest he ever saw.

THE MONARCH COMPANY

Have purchased the mill of the late New York and Idaho Gold Mining Company at Red Warrin, Rocky Bar, and purpose to forthwith remove it to Yuba.

Mr. Atkins, the Superintendent, has on hand $60,000 at least of bullion, the result of work done this past winter, with a machine that would only work one ton a day, and that very imperfectly, but it is difficult to know anything of the Monarch Company, as they work very secretly; but the above amount of bullion has been seen, and it is known and acknowledged by the Superintendent that they have that amount, and it is strongly supposed that they have much more.

Arrangements have been made by which the Lucy Phillips Company (English) will go ahead before very long.

BOISE PLACER MINING.

Placer mines on Boise River, eleven miles above Boise City, owned by Bishop, Wagner, Ramsey and Reynolds, are said to be a good paying thing; also about thirty-five miles up, five ounces of clean dust was the result of two days' work of four men. The bar from which this was taken prospects evenly, and is sufficient for four men to work at for twelve years. There is not over two sluice heads of water without making a ditch for four or five miles.

A heavy storm visited us last night, doing much damage to mines, trees, and even fences, but to grain and gardens it was beneficial.

I send you a *Democrat* of to-day, giving an account of a horrible tragedy that has occurred in our midst. I will write whenever there is anything to write about, but times are horribly dull. Adipus.

Boise City, May 19, 1869.

American Inventions and English Claimants.—The manner in which American inventions are sometimes adopted in other countries and supplied with names that wholly disguise their origin has been exemplified in unnumbered instances, among which may be noted the so-called Paixhan gun, invented by Col. Bomford, but called after the Frenchman who introduced it into his own country; the Drummond light, devised by an American physician, but deriving its cognomen from an English lieutenant; the gas engine, first made to operate with anything like practical success by a Philadelphia inventor, but most widely known as the work of a Parisian improver; and, the "Abyssinian pump," so termed because used by the British forces in the Abyssinian expedition, although invented by an officer of the American army to meet the wants of our soldiers in the great civil war."—*American Artisan.*

American Velocipedes Abroad.—The American *Artisan* notes the following: as an admission, on the part of "our foreign cousins" of the superiority of American velocipedes over those across the water, Mr. Pickering, of New York, recently received a cable telegram from England ordering two of his velocipedes to be forwarded forthwith; the purchaser paying twenty-five dollars for the telegram rather than await the transmission of his order per steamer!

Locomotive Explosions.—No fewer than fourteen large locomotives have exploded within the past seven months in the United States, killing twenty-nine persons outright and severely wounding a much greater number.

Mechanical Progress.

Another of Howland's Rotary Valve Engines, of 20-horse-power, and weighing 1,000 pounds, has been completed at the Miner's Foundry. The same was examined, in running operation, by a number of engineers and others on Monday last. Instead of a single slide valve in the steam chest, to let on and shut off the steam alternately at the opposite ends of the cylinder, it has *two* revolving valves, one at each end; so cut away, into three arms or parts, as to let in the steam at these opposite ends of the cylinder precisely as it is required. There are several decided advantages in this arrangement: 1. The engine pulls evenly—remarkably so—whether the machine runs fast or slow, as was shown by applying a friction brake to the fly-wheel. 2. The pressure of steam being *constantly alike on all sides* of the valve, friction is avoided, the only alteration of pressure on opening communication being upon the piston, where the power is required. 3. Only one of the valves, situated at one end, will run the machine, at times when little power is required; thereby saving all the steam that must otherwise enter at the other end, equal to one-half.

The rotary valves can be easily applied to any ordinary engine, and are now applied to the large engine of the Miners' Foundry. A saving of 30 per cent. of fuel is the great point claimed in favor of this invention—due to the avoidance of friction. This claim, Mr. Howland informs us, is fully sustained by actual weighing of the coal used with and without rotary valves. The operation of an engine with these valves is most simple. After four months' use no more leakage is said to occur than ordinarily. If these claims are not counterbalanced by objections, the invention of these rotary valves, which is entirely original with Mr. Howland, is likely to prove a matter of importance in the history of the steam engine.

Flying Machines.—"The force of gravitation is the very force which is the principal one concerned in flight, and without which flight would be impossible. It is curious how completely this has been forgotten in almost all human attempts to navigate the air. Birds are not lighter than the air, but immensely heavier. If they were lighter than the air, they might float, but they could not fly. * * Being always heavier, they keep possession of a force capable of supplying momentum. * * If a bird could inhale warm air enough to make it buoyant, its power of flight would be effectually destroyed. It would become as light as a balloon, and consequently as helpless. * * All attempts to guide bodies buoynnt in the air must be fruitless. Balloons are mere toys. No flying animal has ever been formed on the principle of buoyancy. * * If man is ever destined to navigate the air, it will be in machines formed in strict obedience to the mechanical laws which have been employed by the Creator for the same purpose in flying animals."

We quote the above detached sentences from within a space of some fifty pages in "The Reign of Law,"—a new work by the Duke of Argyll. A foot-note states that there is a society established in Paris, the title of which is: "Society for the encouragement of aërial locomotion by means of apparatus heavier than the air." This indicates that the principle of buoyancy is seen by the French scientists to be a false one.

Locomotive Brakes.—Herr Krauss' plan "consists of an arrangement by means of which the blast nozzle can be closed, and the steam admitted into the cylinders through the exhaust-pipes, instead of in the ordinary way; the steam thus admitted being pumped back again into the valve chests, and thence through a valve into the chimney. The slide valves are constructed so that they cannot be lifted from their places by the pressure of the steam on the under side."—*Engineering.*

Mr. Saxby's Magnetic Test for Iron. The experiments upon bar and forged iron reported last year by Mr. Saxby will be remembered. He now announces, in a paper read before the Institution of Naval Architects, that the method of testing by magnetism is infallible with rolled plates also. A multitude of proofs may, he says, be produced. Among these he instances the following:

"A few months since I wanted a piece of the best and soundest plate iron, for use as a standard of comparison. Under permission of the Captain-Superintendent, I went to the fountain head in applying to the master boiler maker. He carefully selected a small portion of a partly-used plate which had undergone and passed all the Admiralty tests. The piece was sent to my lecture room as a sample of the very best rolled plate which could possibly be procured; and as fit for the most important work. Before cutting off the sample, he had used the precaution of punching three or four burrs from various parts of the adjacent portions for my approval; these certainly appeared to be of the finest quality. Now, I have three distinct methods of ascertaining by magnetism the quality and condition of iron; and each of these admits of results being projected on paper as a diagram. What was my astonishment when on applying my three tests to this (supposed) superlatively good plate, they severally produced a diagram which utterly condemned the sample as totally unfit for boiler use! I naturally feared a pitfall—or suspected a trick; but returned the plate to the master boiler maker as certainly unsound. I had marked the faulty spot. He and his foreman then carefully examined it, and his faith in the plate was evidently shaken. He at once cut the plate into strips, and found in them a perfect corroboration in favor of magnetic testing. I have the strips in the room and will presently show them."

Stone-Dressing Machinery.—A Glasgow machine for this purpose consists of a circular iron table, on which the rough flags to be polished are laid,—and which revolves at great speed. Upon the top of these flags, are others which are moved back and forth by an iron frame. Both are therefore polished at the same time. At a recent trial, the machine did in half an hour the work of eleven men for one day.

Action of Sea-Waters on Ships' Copper Bottoms.—The following is clipped from a paper read by Edwin Clark, C. E., at a recent meeting of the London Institute of Civil Engineers:—"The object of covering a vessel with copper is solely to prevent the adhesion of barnacles and other mollusks. This property is not due to the poisonous quality of its salts as is sometimes asserted, nor is copper used on account of its durable qualities; on the contrary, its value depends on its slow destruction. The chloride of copper formed beneath the attachment of the barnacle being a soluble salt, the creature no sooner effected a lodgement than it is at once set free by the solution of the salt; while the salts which are formed on zinc or iron being insoluble, the plate is rather protected than otherwise by the tenacious parasite. Hence the difficulty of devising an efficient paint for iron ships; for while, on the one hand, it must be slowly soluble in water to prevent this adhesion, it must, on the other hand, be sufficiently insoluble to be durable."

Cross-Cut Saw.—Leave every third tooth *straight.* Don't set it either way. File it straight and square—not at an angle as you do the others. Leave it 1-20 inch shorter than the others. The saw will cut twice as fast as one set and filed in the old way. So says a writer in the *Southern Cultivator.*

A 70-Ton Block of Iron.—The largest casting ever made in Wales was made during the last month at Landon. It was required for a steam hammer,—and weighs seventy tons. It is 11½ ft. by 9½ ft., by 7¼ ft. in size. Two or three weeks will be necessary to cool it sufficiently to be reversed;—it was cast base uppermost.

Hard Alloy of Silver.—It is said that the addition of a thousandth part of cobalt or nickel will make silver almost as hard as steel.

Scientific Progress.

The Depth of the Pacific as deduced from Earthquake Waves.—At the session of the National Academy of Sciences, which commenced April 14th, at Washington, Prof Hilgard made some remarks on earthquake waves and the depth of the ocean. He exhibited the diagrams of the tidal waves as observed at San Diego, San Francisco, and at the mouth of the Columbia River, at the time of the great earthquake on the coast of Peru last October. He had investigated the velocity of the wave by its first indications, and found that it had traveled to San Diego at the rate of about 450 miles per hour, to San Francisco at 400 miles per hour, to the Sandwich Islands at about 446 miles per hour, China 341 miles, and Alaska 326 miles per hour. Alluding to the effect on waves of depths of seas, he stated that a difference in depth of 100 feet would make a difference of two miles per hour in the rate of the wave.

From a careful examination of the facts, he had determined that the average depth of the Pacific Ocean was about 10,000 feet. He then referred to the long established idea that the sea was presumed to be four miles deep, by the method of balancing the earth by an ideal surface of half the elevation of land above the sea, and, that having considered the ideal surface of the earth as representing the surface of center of gravity of the land as above the water, and taking the earth as one-fourth, the surface and the water three-fourths, he had reached a conclusion as to the depth of the sea averaging about 12,400 feet; and that by considering the land slopes as continuing to the oceans, with a corresponding topography, he had reached the same conclusion as to average depth as by the wave element, 10,000 feet. He thought the subject worthy of careful examination and observation, as the depth of the ocean was an important element in the determination of the precession of the equinoxes.

Breathing.—An egg may be *suffocated* by varnishing it. The influx of oxygen and efflux of carbon is thereby stopped. A man inhales and exhales about a pint of air at each respiration, and makes about twenty respirations per minute; a total in twenty-four hours of 864,000 cubic inches. Of the exhaled air 4.3 per cent. is carbonic acid gas; and if the carbon of this should be separated, it would be found that an active man gives off every twenty-four hours through his mouth, a large plateful of black charcoal,—some ten or eleven ounces of carbon. To burn all this carbon in the body, the lungs have to supply every 11.1 ounces of it with 134 gallons of oxygen.

The Action of Aqua-regia on Sulphur.—M. Lefort says the dissolution of the sulphur is effected by the constant formation of chloride of sulphur, which decomposes, as soon as it forms, into sulphuric acid and hydrochloric acid. One volume of hydrochloric and three of nitric acid are the best proportions.

Glass Not Unchangeable.—*Chemical News* says it has been recently shown that all kinds of window-glass are altered in color by exposure to light; some in a few hours, others in a few years. The tints seem to be limited to purples and yellows, the purples running from pale lavender into lilac, mulberry, flesh, amethyst, rose, violet, pink, and deep purple, and the yellows through all shades of light lemon to the brightest gold color. M. Pelouse has found that glass which has been stained by sunlight is bleached by an exposure to a red heat, and that the successive coloring and bleaching may be carried on indefinately.

Glass panes, constantly exposed to the action of the sun and rain, are soon deteriorated, as the potash or soda they contain combines with the carbonic acid of the air. A whitish opaqueness is the consequence, and in order to make the pane return to transparency, it should first be rubbed with dilute hydrochloric acid, and then cleaned with moistened whiting. By this means glass in an extreme state of decomposition may be completely restored.

Absorbed, Reflected, and Transmitted Light.—Prof. Tyndall, who has been on an excursion among the Alps, in describing and explaining the color phenomena there witnessed, says: "This color of the morning and evening, and the blue color of the sky, are due to a common cause. The color has not the same origin as that of ordinary coloring matter, in which certain portions of the white solar light are extinguished, the color of the substance being that of the portion which remains. A violet is blue because its molecular texture enables it to quench the green, yellow, and red constituents of white light, and to allow the blue free transmission. A geranium is red because its molecular texture is such as quenches all rays except the red. Such colors are called colors of *absorption;* but the hue of the sky is not of this character. The blue light of the sky is *reflected* light; and were there nothing in our atmosphere competent to reflect the solar rays, we should see no blue firmament, but should look into the darkness of infinite space. The reflection of the blue is effected by perfectly colorless particles. Smallness of size alone is requisite to insure the selection and reflection of this color. Of all the visual waves emitted by the sun, the shortest and smallest are those which correspond to the color blue. On such waves small particles have more power than upon large ones; hence the predominance of blue color in all light reflected from exceedingly small particles. The crimson glow of the Alps in the evening and in the morning, is due, on the other hand, to *transmitted* light; that is to say, to light which in its passage through great atmospheric distances, has had its blue constituents sifted out of it by repeated reflection."

Bunsen on Filtration.—Prof Bunsen describes his new method of filtration in a recent number of *Annalen der Chemie.* The peculiarity of it is that, instead of allowing solutions undergoing filtration to run through the paper by the action of gravity, he causes them to be sucked through. Between the filter paper and the funnel he places a funnel of thin platinum foil fitting accurately to the glass and affording the requisite support to the frail moistened paper, exposed to a certain degree of atmospheric pressure. The tube of this funnel passes through a cork fitted into the neck of a flask, whilst a second glass tube, also passing through this cork, communicates with an apparatus which he terms a water air-pump, and by this means the air of the flask is kept in a state of rarefaction. By giving the waste pipe of the air-pump a vertical length of 30 or 40 ft., the atmospheric pressure on the liquid in the funnel becomes equal to that of 740 millimetres of mercury. Under these circumstances, solutions that by the old method filter very slowly, pass clearly through the paper with great rapidity. Bunsen experimented on oxide of chromium, which, as thrown down by ammonia' is filtered and washed out with great difficulty. A *constant* volume of a standard solution, after precipitation with the above reagent, was used in each experiment. An attempt to filter directly in the old way was unsuccessful, for after the third washing, at the completion of which 238 minutes had been consumed, the filtrate became turbid. Another quantity was then washed by decantation and finally thrown on the filter under ordinary pressure; the supernatant liquid was ten times decanted and the entire filtration accomplished in 180 minutes, the volume of the filtrate being 1750 cub. cent. When operating with the aid of the pump, the same amount of oxide was filtered and washed five times in nineteen minutes, the volume of the filtrate being 142 cub. cent.; another filtered and washed three times in sixteen minutes, yielding ninety-five cub. cent. of filtrate. A further advantage of this method rests in the fact that the precipitates are sufficiently dense and dry to allow of their being at once transferred to the crucible, paper and all, for ignition, without any fear of loss by spirting, provided only that the heating be conducted with a certain degree of caution.

The Liquid in Gem Cavities.—In the specimens of the emerald containing cavities filled with liquid, which have been examined by Messrs. Sorby and Butler, each of the cavities contains what is no doubt an aqueous saline solution, and one or more cubic crystals, probably chloride of potassium, which dissolve on the application of heat, and are deposited again on cooling. These cavities are thus analogous to those met with in the quartz of some granite, and in the minerals of blocks ejected from Vesuvius; and it seems difficult, if not impossible, to explain them, except by supposing that a strong saline solution was caught up by the mineral at the time of its formation.

Farming and Gardening.

Plant Apple Trees.

There is no fruit so widely diffused, or so generally useful and healthy as the apple. Why every man in possession of a half or even a quarter of an acre of gound does not raise apples, we never could comprehend; and the sight of a farm or ranch without apple trees, and a general assortment of fruit, has ever heen, to us, a matter of astonishment. A well-planted orchard of choice trees will pay far hetter than most of the feet in White Pine; and a farm, with even a small showof such trees, is worth from $500 to $1,000 more than one without; while a sufficient quantity of fruit can generally be obtained therefrom, the third year, to pay for all the cost of setting out and cultivation.

The apple is a hardy tree and possesses a wonderful power of adaptation to any soil or situation. To say nothing of our great valleys, it has heen proven to do admirably well all through the mountains of California. A few years ago it was feared, and strenuously maintained hy some, that the business of raising fruit was even then overdone in this State; hut the dearth of the market in this city during the winter months, is a sufficient answer to any such objection. Good fruit is never sold in San Francisco at a low price, and the consumers are increasing in a greater ratio than the producers.

Fruit farming requires skill, discrimination and judgment; and when these qualifications are brought to bear upon it, there is no such thing as failure. It costs no more to raise good fruit than poor; while the former will sell for twice as much as the latter. Some fruit-raisers, hy forgetting this fact, fail of success, and denounce the business; but such cases should not discourage intelligent men.

Failure as often comes from bad culture as from poor fruit. We have heard of a Pennsylvania farmer, who put a large flat stone under his trees to keep the roots near the surface, that they might always grow in good ground; but the contrary things *would* turn down when they reached the edge of the stone, and go hunting for moisture. Those who stick their trees a few iuches into the ground, without any previous preparation, are just as foolish. In both cases they raise only deformed trees, poor fruit and hut little of it.

To set out a tree aright, be it ever so small, the hole should be dug at least two feet and a half to three feet in depth, and from three to four feet across. In filling in, no "hard pan" should go hack; fill in with fresh earth, plentifully and intimately mixed with chip manure, or something similar, which will he slow in decomposing, and furnish plant food for a long time. A little air-slacked lime, with ashes and bones, should also he intimately mixed with the soil. Let no manure come in direct oontact with the roots; place against them only finely pulverized, earthy compost.

The ash of the apple tree contains ahout 70 per cent of lime; hence that mineral should always form an important ingredient in the compost applied to it, either ahove or below ground. The surface compost applied to fruit trees should always he varied in accordance with their physical wants, as shown hy the chemist in his analysis of their fruit and wood. Apples require an excess of lime; pears an excess of potash; plum and quince trees require salt; peach and cherry trees should he plentifully supplied with ashes, while grape vines require lime, ashes and plaster (gronnd gypsum).

A healthy, vigorous tree will withstaud the attacks of insects and drought much hetter than a sickly one, as well as prove more productive of fruit. As yet, fruit-growers in California are not much troubled with insect pests. The orchard caterpillar is the only one that has made its appearance on our apple trees. The apple moth, which has not yet reached the Pacific coast, is the most troublesome and annoying of all the pests which afflict this tree. This is the insect which defiles that delicious fruit, hy depositing its eggs thereon, during its early growth. The eggs are not laid in the blossom, according to the general idea, hut in the fruit itself, as the insect does not assume its winged state until the blossoms have disappeared, and fruit has set. The larvæ, after having despoiled the fruit, seeks the most convenient refnge for its transformation. This is usually found under the rough scales of the bark; hence the advantage of scraping the trees and washing with strong suds or lime water to kill the "varmints." A good trap for them is made hy winding a rag or wisp of hay around the hody of the tree. They will crawl under such a shelter, especially if the hark is smooth—from whence they can he easily dislodged and destroyed. It would be well for Californians to keep a good look out for these insects, and declare a general war against them at their first appearance. By so doing we may continne to raise apples free from worms, which we can eat with a relish even in the dark.

Market Gardening.

The industrious market gardener, on his six or eight acres of well tilled soil, with a variety of productions, is quite as sure of acquiring independence, as the large farmer with his hundreds of broad acres, waving with whcat or barley as his only crop. The reason of the general lack of success in the large farmer, is the want of variety in his crops, and the lack of care in preparing his ground for their growth. By a fortuity of circumstances, he may sometimes make a great deal of money hy a single crop—as did onr wheat growers, who, two years ago, sold their grain for two dollars and upwards per cental; hut now, when wheat is down to $1.50, and lower, there is very little margin for profit, unless the farmer puts in his own time to help out; for he has but one product to depend upon.

Not so with the market gardener. Outof his variety he is sure to make money. He is not dependent upon a single article. If he lose on one he is sure to make up his loss on another. Again, the market gardener, generally cultivates with care. His lahors are necessarily confined to a small tract of land, and he must get all he can off from it. He plows deep, he rotates his crops, he has a care that his land does not become exhausted; hut constantly renews hy a judicious application of manures, the fertilizing elements which he is aunually removing, hy taking away his crops. Hence success invariahly crowns his persistent efforts. All successful market gardeners argue that it is hopeless to attempt to grow crops without the yearly application of fertilizers in large amounts and so varied in character as to meet the peculiar conditions of the soil, and the especial requirements of the crops produced. We notice that large quantities of mannre are daily hauled out of this city, miles distant, to keep up the condition of the gardens which supply us with vegetahles. If our large interior farmers would profit by this example, and more generally apply condensed fertilizers to their lands, they would greatly increase their products of wheat, barley, potatoes, etc., and at a less proportionate expense for cost than they now have to meet.

Henderson, in his work on gardening, says: I never yet saw soils of any kind that had horne a crop of vegetables that would produce as good a crop the next season without the use of manure, no matter how rich the soil may be thought to he. An illustration of this came under my observation last season. One of my neighbors had it in prospect to run a sixty-foot street through his grounds; thinking his land sufficiently rich to carry through a crop of cabhages without manure, he thonght it useless to waste money hy using guano on that portion on which the street was to he, hut on each side sowed guano at the rate of twelve hundred ponnds per acre, and planted the whole with early cahhages. The effect was the most marked I ever saw; that portion on which the guano had heen used sold off readily for abont $1400 per acre; but the portion from which the guano had heen withheld realized less than $400 per acre. The street occupied fully an acre of ground, so that my friend actually lost over $1000 hy withholding $60 for manure. Another neighhor with a lease of only one year to rnn, also unwisely concluded that it would be foolish to waste mannre on his last crop, and so planted and sowed all withont; the result was, as his experience should have taught him, a crop of inferior quality in every article grown, and loss on his eight acres of prohably $2000 for that season.

Flowers.

California wild flowers, while they send out hut little odor, more than compensate for that deficiency in their abundance, variety and exquisiteness of form and color. There are few flowers in the garden which embody more beauty and brilliancy thsn do the wild ones that hespaugle our broad plains, ornament our grassy hillsides, or cling with tiny rootlets to the rocky surfaces of our steep, mountain declivities. At this season of the year, they are seen everywhere, out of the trodden marts of commerce, spread out in the greatest profusion, howing and waving their heautiful heads,—wonderful pictures upon nature's carpet, beautiful ornaments in her lofty niches. The sun tonches them teuderly, painting upon their delicate surfaces the hrightest colors; the winds dally with them gently, and the storms heat lightly upon them, and only to nourish and invigorate. We always had a passion for flowers,—flowers in the field, in the garden, in the window, among the trees—flowers everywhere.

Every flower is a green syllahle in Nature's language; every clnster is an illuminated sentence, written out upon one of her broad pages. He who reads not or cares not, shows a lack of taste, and holds up a mirror to his inner life, in which all who look must observe a want of the finer sensihilities which most elevate and enrich the cultured mind.

San Francisco is fast hecoming a city of flowers; and it is pleasant to see those engaged in the active pursuits of life; and ladies, too—as we sometimes do see—devoting a portion of their time to the floral decoration of their homes. It shows that their hearts are alive to the sweetest influences of nature, and that the hetter feelings of the sonl rise ahove the sordid love of gain, or the morhid delicacy of cushioned, silk-clad ease. It is well to make these heautiful forms of nature the ohject of personal care. This culture will create a living spring of hope within us, make our homes heautiful, lovely and happy, strengthen our family ties, and send forth a spiritual fragrance that will rise like incense from the altar, to guide ns onward and upward to the pearly gates within which are flowers that never fade and forms which never grow old.

Atlantic Flowers.—A hunch of flowers were exhibited in this city on Friday which hloomed in New York, and were brought directly hy rail, retaining their hrightness and fragrance.

Amateur and Scientific Farming.—Mr. J. H. Hall, a member of the Farmers' Club and New York State Poultry Society, has purchased a farm on Long Island for the purpose of testing general questions of interest in agriculture. One of these is the value of artificial manures, the profitable growing of imported seeds from Washington and the feasihility of raising poultry on a large scale, Dr. Pratteree, of the Eccaleobion celebrity, has kindly consented to aid him in the hatching of eggs by the hundred with his imported and improved machine.

Farming Profits at the East.—Mr. Rankin, of Monmouth, Illinois, last year, raised 575 hushels of corn on five acres of ground, which he sold for forty-five cents a bnshel, realizing $258.75. The total cost of raising the same, inclnding $25 allowed for rent of ground, was $86.50; leaving $172.25 net profit—or $34.45 per acre.

Mr. Brerras, of North Fairfield, Huron County, Ohio, reports a net profit of $28.76 per acre on 13¼ acres, planted in corn and pumpkins.

Mr. R. A. Leonard, of Monmonth County, New Jersey, reports a profit of a small fraction short of $80 per acre on eighty-five acres of land, devoted chiefly to asparagus, potatoes and tnrnips. We condense the ahove from the Report of the Department of Agricnlture for February.

George Waring says the farmer who spends $300 an acre in manuring his vegetahle garden, is likely to make $500 an acre.

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, May 28, 1869.

Flour, Extra, ₱ bbl	$4 75	@	$5 25
Do. Superfine	4 25	@	4 50
Corn Meal, ₱ 100 lbs	2 00	@	2 25
Wheat, ₱ 100 lbs	1 50	@	1 65
Oats, ₱ 100 lbs	1 50	@	1 65
Barley, ₱ 100 lbs	1 25	@	1 50
Beans, ₱ 100 lbs	6 00	@	7 00
Potatoes, ₱ 100 lbs	75	@	1 40
Hay, ₱ ton	10 00	@	17 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	7	@	9
Sheep, on foot	2 50	@	3 00
Hogs, on foot, ₱ lb	5	@	7
Hogs, dressed, ₱ lb	9	@	10
GROCERIES, ETC.			
Sugar, crushed, ₱ lb	14	@	15
Do. China	10	@	—
Coffee, Costa Rica, ₱ lb	19	@	29
Do. Rio	18	@	19
Tea, Japan, ₱ lb	75	@	90
Do. Green	90	@	1 25
Hawaiian Rice, ₱ lb	—	@	10
China Rice, ₱ lb	6	@	6¾
Coal Oil, ₱ gallon	45	@	47½
Candles, ₱ lb	16	@	18
Ranch Butter, ₱ lb	35	@	38½
Isthmus Butter, ₱ lb	32½	@	35
Cheese, California, ₱ lb	15	@	18
Eggs, ₱ dozen	35	@	42½
Lard, ₱ lb	15	@	16
Ham and Bacon, ₱ lb	14	@	15
Shoulders, ₱ lb	7	@	8

Retail Prices.

Butter, California, fresh, ₱ lb	45	@	50
do. pickled, ₱ lb	30	@	—
do. Oregon, ₱ lb	20	@	25
do. New York, ₱ lb	35	@	40
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	50	@	55
Lard, ₱ lb	16	@	18
Hams and Bacon, ₱ lb	23	@	25
Cranberries, ₱ gallon	1 00	@	1 25
Potatoes, ₱ lb	1½	@	2
Potatoes, Sweet, ₱ lb	3	@	5
Tomatoes, ₱ lb	3	@	—
Onions, ₱ lb	8	@	10
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	10	@	12
Peaches, dried, ₱ lb	10	@	12
Oranges, ₱ dozen	50	@	60
Lemons, ₱ dozen	75	@	1 00
Chickens, apiece	75	@	1 00
Turkeys, ₱ lb	30	@	35
Soap, Pale and C. O.	7	@	12
Soap, Castile, ₱ lb	18	@	20

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, May 28, 1869.

Iron.—Duty: Pig, $9 per ton; Railroad, 6½c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1½c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.			
Scotch and English Pig Iron ₱ ton	$45 00	@	$47 50
White Pig ₱ ton	36 00	@	37 00
Refined Bar, bad assortment ₱ lb	— 03	@	— —
Refined Bar, good assortment, ₱ lb	— 04	@	— —
Boiler, No. 1 to 4	— 04½	@	— —
Plate, No. 5 to 9	— —	@	— 04½
Sheet, No. 10 to 13	— 04½	@	— 5
Sheet, No. 14 to 20	— 05	@	— 5¼
Sheet, No. 24 to 27	— 05	@	— 6¼
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb			
Sheathing, ₱ lb	— —	@	— 26
Sheathing, Yellow	— 20	@	— 21
Sheathing, Old Yellow	— 10	@	— 11
Composition Nails	— 21	@	— 22
Composition Bolts	— 21	@	— 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.			
Plates, Charcoal, IX, ₱ box	12 00	@	— —
Plates, I C Charcoal	— —	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs, ₱ lb	— —	@	— 35
Steel.—English Cast Steel, ₱ lb	— —	@	— 15
Quicksilver.—₱ lb	— 55	@	— 60
Lead.—Pig, ₱ lb	— 7½	@	— 8
Sheet	— 10	@	— —
Pipe	— 11	@	— —
Bar	— 9	@	— 1¾
Zinc.—Sheets, ₱ lb	— 10½	@	— 11
Borax.—California, ₱ lb	— 35	@	— 38

Value of the Pacific Railroad Lands.—The value of the land subsidies to the Overland Railroad is worth mnch more on the Central than on the Union portion of the ronte. The latter, deducting the worthless portion, have ahont 6,500,000 acres, from which they will prohahly realize their maximum price of $2.50 per acre—realizing, in gross, $16,250,000. The Union Company, althongh they have built the greater numher of miles of the road, and have a larger area of land, will not he able to realize from more than one-quarter of the same—say 2,200,000 acres; which at $2.50, will yield them only $5,500,000.

The Mining and Scientific Press is regarded wherever known as one of the most reliable newspapers published on the American continent. It is devoted to the mining and manufacturing interests of the Pacific coast, and has correspondents in all sections of the country.—*Colorado Register.*

Stock Review.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, May 29, 1869.

Financial.

There is no disguising the unpleasant fact that the San Francisco money market is undergoing a very severe pressure. Money is scarce—remarkably so—and rates have been put up in proportion. The most favored borrowers are paying 1½@2 ₱ cent. per month, while many stock brokers give 3 ₱ cent. for minute money. There is an indefinable sense of depression in business circles arising mainly from the scarcity of money. There are $8,000,000 locked up in the Sub-Treasury; $1,500,000 in the State Treasury, and a large sum in the City Treasury. Much money has been sent East to take advantage of the rise in gold in that market. Large sums have drifted toward White Pine, where it remains locked up or gone East, and for paying the laborers on the Central Pacific Railroad. Other large amounts have been consumed in making extensive city improvements. Homestead associations, which have been carried to the pitch of speculation, have absorbed heavy sums in small installments. Our domestic produce has declined so much in price that to express the same value requires twice the quantity requisite one year ago. The Chinese have got possession of much coin and keep it secreted and out of the market. A project is on foot to utilize these means by establishing a Chinese savings and loan society. It has found favor, ostensibly, with leading Chinese merchants and the heads of their great companies; but it is barely possible that Chinese funds are already employed by the Chinese companies and leading merchants. A variety of other reasons may be assigned for the existing stringency. One hopeful feature is the fact that deposits are increasing slowly in some of our savings and loan societies, showing that some of the money is returning.

We quote bullion in fair supply. Gold bars rule from 880@890; silver bars from par to ¼ per cent. premium; currency bills on Atlantic cities pay 36 per cent. premium on gold; coin drafts, 1½ per cent. premium; telegraphic transfers, 2 per cent. premium; sterling exchange, 483¾d; commercial do, 49¾d. Mexican dollars bring from 5@6 per cent. premium. $280,000 Mexican dollars were received by the U. S. steamer Mohongo. Government seems determined to compete against our merchant marine for the transportation of specie.

There is a great deal of doubt existing with reference to the effect which close commercial intercourse with the East will have upon our currency. Some tenaciously hold that greenbacks will be forced upon our acceptance, while others incline to the belief that our gold and silver will maintain their position. We cannot conceive how we are to be affected by the closer contact. We have for some time been witbin two weeks' reach of New York, and have had the telegraph for years without disturbing our currency in the least. The shortening of time one week can make no difference. All that could have been done in this line has already been done for years by the telegraph. If Eastern merchants come here to purchase they must expect to make the same arrragements they would if going to Europe. If they use greenbacks they must part with them at the market price, and those greenbacks will be needed by Government for army, navy and civil disbursements on this coast. No injury has ever resulted from the annual shipment of from twenty to thirty millions of greenbacks to California by the Government. None will happen from any business transactions with Eastern merchants. With a plentiful supply of paper currency we can enter Eastern markets, make our purchases and keep our specie for home and foreign requirements. If anything, an increased influx of paper money will prove quite a relief from the incessant drafts of gold and silver to which we have been subjected. Paper will serve as the medium of exchange between the East and the West, and for this purpose will take the place of our gold and silver. We think all fears on this subject ill-grounded.

City Stocks.

During the past fortnight very considerable sales of Spring Valley Water Co. stock were made at $66 12½ and $66 per share. With regard to other miscellaneous securities the open market is exceedingly quiet, in fact it is rather difficult to make any sales of this nature at present, as no very great demand exists, and other channels afford more remunerative terms under the present stringent condition of the money market.

Among the numerous incorporations effected through our Courts, we note the following:

Oriental Fire and Marine Insurance Company. Capital, $100,000 in 1,000 shares of $100 each. Trustees—John Bell, H. H. Bancroft, J. N. Eckel, J. R. Jarboe, J. R. Sharpstein, Jacob Decth, T. H. Hatch, H. Rosekrans, H. Epstein, and Wm. H. Sharpe.

The returns of our local insurance companies to the Internal Revenue department for the month of April and previously this year have been as follows, upon a currency basis of 74 cents on the dollar for the month of January, 77½ cents for February and March and 75½ cents for April:

	April.	*Previously this year.*	*Total.*
Pacific	$110,292	$273,072	$383,364
Union	48,781	138,086	186,867
Fireman's Fund	22,844	93,073	115,917
California	10,036	33,155	43,211
Merchants' Mutual Marine	35,843	67,310	103,153
Occidental	27,490	57,735	85,225
Home Mutual	13,171	41,368	54,539
Peoples'	18,548	42,153	60,701
Total	$287,115	$742,972	$1,030,087
Same time in 1868	164,442	506,154	670,596
Increase in 1869	$122,673	$236,818	$359,491

The above statement shows a falling off of $24,264 from the receipts in March. The receipts of the several companies in April as compared with March show the following difference:

	Increase.	*Decrease.*
Pacific	$3,941	.....
Union	.....	12,130
Fireman's Fund	.....	27,122
California	.....	2,295
Merchants' Mutual Marine	5,150	.....
Occidental	.....	99
Home Mutual	.....	816
People's	5,067	.....

The receipts of the city railroads for the month of April and previously this year were as follows:

	April.	*Previously this year.*	*Total.*
Omnibus	$28,869	$68,987	$97,856
North Beach & Mission	23,084	64,927	89,988
Central	17,153	43,542	60,695
Front Street, Mission & Ocean	9,477	24,560	34,037
Market Street	12,355	30,928	43,183
Potrero and Bay View	3,220	7,035	10,255
Totals	$93,105	$237,959	$331,064
Same time in 1868	79,788	212,834	292,622
Increase in 1869	$13,317	$25,125	$38,442

As compared with the total receipts in March, we find a gain of $1,990. The receipts of April as against March show the following difference:

	Increase.	*Decrease.*
Omnibus	$1,429	.....
North Beach and Mission	1,042	.....
Central	894	.....
Front Street, Mission and Ocean	498	.....
Market Street	710	.....
Potrero and Bay View	317	.....

The Exports of Treasure from May 1st to date, have been as follows:

May 4—Per Japan—		
To China	$672,182 42	
To Japan	661,739 06	$1,333,921 48
May 8—Per Colorado—		
To New York	$132,445 46	
To England	193,865 73	
To France	32,101 50	
To Central America	251,903 59	
To Panama	20 000 00	630,116 28
May 18—Per Constitution—		
To New York	$ 69,530 00	
To England	238,951 57	
To France	137,648 68	
To Central America	279,567 10	
To Panama	20,000 00	745,697 35
Total since May 1st, 1869		$2,709,733 11
Previously this year		13,260,458 87
Total since January 1st, 1869		$15,970,193 98
Corresponding period, 1868		15,623,791 94
Increase this year		$346,402 04

The duties paid at the Custom House, in this city, from May 17th to date have been as follows:

May 17	$35,699 30
May 18	19,181 72
May 19	37,158 08
May 20	14,559 21
May 21	22,717 36
May 22	14,131 20
May 24	25,000 03
May 25	23,287 87
May 26	16,605 83
May 27	32,910 33
Previously in May	303,385 55
In May to date	$546,746 58
In April	554,882 05
In March	780,447 40
In February	692,340 09
In January	532,997 97
Total since January 1st, 1869	$3,017,414 00
Corresponding period, 1868	3,323,323 13
Decrease this year	$305,909 13

Mining Share Market.

During the week under review the mining share market exhibited less activity than for quite a number of weeks past, and the tendency has been to lower rates. With regard to the White Pine bullion product a contemporary remarks: We learn from good authority that the bullion yield of the White Pine mines for the single month of April exceeded that of the Comstock Lode for the first two years of its exploitation. This is an important fact, foreshadowing as it does the immense mineral wealth of White Pine. But there is no doubt whatever that other sections still more interior will be earafter be found equally rich. The mineral wealth of the Pacific coast will be developed much more rapidly hereafter, as the success attending White Pine discoveries will induce an army of explorers to extend their prospecting tours to contiguous regions, while the improved methods of treating ores must eventuate in giving a fixed value to mines now not among the paying class.

Imperial—was in the market to a less extent than usual, with some abatement from prices obtained during the previous week. A telegram of the 26th inst. states that the bottom of the shaft and the south drift are in quartz and clay, the west drift continuing in porphyry. On the 20 inst. $7,548 in bullion was sent forward to the office in this city.

Hale & Noncross—shows but little change from sales made last week, both in quantity and prices. During the week ending May 22d, 11.78⅘ tons of ore were extracted, the assay value of which is not reported, and during the same time 933 tons were delivered to custom mills for reduction, leaving on hand 1,288 tons. A connection has been made of the north drift in the fifth level with the breast in cross-cut No. 3, and by this means the ventilation has been materially improved. A drift has been run, and a car track laid through the centre of the vein from cross-cut No. 1 to the northern end of cross-cut No. 3, and is reported to show a continuous body of excellent ore the whole distance. On the 20th inst, $8,473 in bullion was sent forward to the office in this city.

Chollan-Potosi—improved rapidly since our previous reference. For the week ending May 21st 1,416 tons of ore were mined, and 1,187⅘ tons were sent to custom mills. We learn that the Blue Wing development is looking well, and producing largely. As the work is being carried west new deposits are found, the supply increasing almost as rapidly as they exhaust the portions already developed. In the new tunnel, on the second floor, 120 feet north from the main adit, the stope is 12 feet wide, and no wall to the west, with good ore. Spots of quartz are reported to be found in the new shaft developments. At a later date the Blue Wing continued to improve, but no changes were noticeable in the shaft.—On the 25th of May the Ophir drift was in a distance of 308 feet.

What an Indian Said of Plantation Bitters.—A little before the commeacement of the buffalo season on the plains this year, two Kiowa chiefs came to Fort Hays, Mo., to obtain powder and ball. As they belonged to the "peace party" of the tribe their wish was complied with. One of them then expressed a desire for "two, tree, five bottles heary good medicine," but could not remember the name of the article he wanted. It was finally recollected that the winter previously a couple of bottles of Drake's Plantation Bitters had been given to one of the chiefs by an officer in the Fort, and it appeared that the red-skin was eager for more. On asking him what he thought of the cordial he promptly replied that it was "berry bad stuff for Injun to take when no meat in wigwam—it made him so hungry—but berry good when buffalo plenty, 'cause it gave him big appetite, and he eat, eat, eat, till he get fat an' stroag." Probably a finer compliment was never paid to the famous vegetable tonic and restorative than this bit of bad English from an unsophisticated Indian. It not only cures indigestion, but impants, so to speak, a *clamorous* appetite. *

Weekly Shareholders' Directory, for Meetings, Assessments and Dividends.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Assessments.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale
Adriatic, Storey co., April 20, $1	May 22	June 7
Accidental, White Pine, March 30, 25c	April 30	May 30
Belcher, Storey co., Nev., May 4, $5	June 6	June 24
Bowden, White Pine, April 14, 6c	May 29	June 14*
Cons. Virginia, White Pine, April 14, $1 50	May 19	June 5
Coney, preferred Stock, div. 1½ per cent		May 10, 1869
Confidence, Storey co., Nev., May 4, $10	June 9	June 30
Cherokee Flat, Butte co., May 1, $5	June 3	June 21
Capital, White Pine, April 19, 10c	May 17	May 31*
Cayuga Chief, White Pine, May 13, 5c	June 17	July 3
Douglas, White Pine, May 6, 12½c	June 21*	July 8
Dios Padre, Mexico, April 23, $3	May 31	June 21*
Etna, White Pine, May 12, 10c	June 17	July 7
Edith, White Pine, May 12, 10c	June 17	July 7
French, White Pine, May 4, 5c	June 7	June 28*
Fogus, Amador co., April 25, $5	May 29	June 18
Gold Hill Q. Storey co., May 13, $20	June 18	July 19
Hale & Norcross, div. $6	May 10, 1869	
Hope Gravel, Nevada co, April 6, $1	May 10	May 31
IXL, Alpine co., May 10, $1 50	June 26	July 14*
Julia, Storey co., Nev., May 27, 50	June 29	July 17
Lettie & Poole, White Pine, April 23, 20c	May 31	June 24
Lexington, White Pine, May 18, 15c	June 23	July 12
Marlborough, White Pine, May 4, 5c	June 7	June 28*
Mocking Bird, White Pine, April 16, 10c	May 20	June 7
Morning Star, Alpine co., May 10	June 17	July 12
Maxwell, Amador co., May 15, $1	June 15	July 15
Mammoth, White Pine, May 20, 25c	June 26	July 15
Nuestra Senora de Guadalupe, May 12, $2	Incl. June 16*	
North Star, White Pine, May 12, 75c	June 18	July 17
North Bloomfield, Nev. co, May 15, $1 60	June 19	July 7
Quail Hill, Calaveras co., April 2, $10	May 11	May 31
Overman, Storey co., Nev., May 15, $20	June 18	July 3
Ophir, Storey co., Nev., May 18, $3	June 21	July 6
Phoenix, White Pine, April 23, 25c	May 27	June 26
Pocotillo, White Pine, May 17, $1	June 24	July 15
Rathbun, White Pine, April 19, $1	May 25	June 14
Siempre Viva, Mex., April 15, $1	May 21	June 7*
San Jacinto Tin, May 27, 50c	June 1	June 19
White Pine Water, Amador co., April 1, $50	May 22	June 19
Virginia Cons., Storey co., April 14, $1.50	May 19	June 5

Meetings to be held.

Ascendant	Annual Meeting June 7
Alpha Cons, Storey co, Nev	Annual Meeting June 21
Bromide Flat, White Pine	Annual Meeting June 1
Crown Point, Storey co., Nev	Annual Meeting June 7
Chloride Tunnel, White Pine	Annual Meeting June 11
Germania	Annual Meeting June 1
Great Unkot, Tuolumne co	Annual Meeting June 5
Hearst, White Pine	Annual Meeting June 7
La Belle	Annual Meeting June 7
Mammoth	Annual Meeting June 7
Summit, White Pine	Annual Meeting June 3
Silver Eagle, White Pine	Annual Meeting June 3
Wheeler	Annual Meeting June 7

Last Dividend.

Alpha Cons., Storey co., Nev	Pay. June 19, 1868
Amador Co., div. $10 per share	Payable May 5, 1869
Bacon, Storey co., Nev., div	Payable June 19, 1868
Chollar Potosi, div., $25	Payable Oct. 15, 1867
Crown Point, dividend, $7.50	Payable Sept. 12, 1868
Eureka, div. $10	Payable May 14, 1869
Empire M. & M., div. $6	Payable May 15, 1867
Gould & Curry, div. $7.50	Payable May 15, 1867
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868
Golden Chariot, Idaho, div. $2.50	Payable March 20, 1869
Golden Rule, Tuolumne co., div. 50c ₱ sh	Pay April 7, 1869
Imperial, Storey co., Nev., div	Payable June 1, 1868
Keystone, Sierra co., div., $32	Payable May 6, 1869
Kentuck, div., $20 per share	Payable Jan. 10, 1869
North Star, dividend, $5	Payable Aug. 15, 1868
Occidental, div. $2	Payable March 2, 1869
Pacific Unassessable, div	Payable June 18, 1868
Sand Spring Salt, dividend $1	Payable Jan. 5, 1869
Santiago, Silver City, dividend, $2 50	Payable Dec. 19, 1868
Savage, Virginia, Nev., dividend, $4	Payable May 11, 1869
Sand Springs Salt, Virginia, div., $1	Payable May 5, 1868
Virginia & G. H. Water Co.	Dividend, payable April 16, 1869
Yellow Jacket, div., $5	Payable March 15, 1869

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

[S. F. Stock and Exchange Board

	Friday Evening, May 23, 1869. *Bid.*	*Asked.*
Miscellaneous Stocks.		
United States Bonds, 5 20s, 1855, '67, '68	$ 81	82
United States Bonds, 5 20s, 1864	—	—
United States Bonds, 5 20s, 1862	—	—
Legal Tender Notes	72¾	73¼
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par	& Int.
San Francisco City and County Bonds, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	83	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par	& Int.
San Francisco City and Co. Sch'l Bds, 7s, 1866	—	91
San Francisco City and Co. Sch'l Bds, 7s, 1862	—	91
San Francisco City and Co. Bonds, 7s, 1864	—	91
San Francisco City and Co. Bonds, 7s, 1865	—	91
San Francisco City and Co. Judg. Bds. 7s, 1863	—	91
San Francisco City and Co. Judg. Bds, 7s, 1864	—	91
Sacramento City Bonds	20	—
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	76	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	75	90
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	60	63
Spring Valley Water Co	66	—
State Telegraph Co	25	—
Gas Companies.		
San Francisco Gas Co	81	82
Sacramento Gas Co	52	53
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	74	—
Central Railroad	50	—
North Beach and Mission Railroad	74	—
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	160
Insurance Companies.		
People's Insurance Company	—	100
Firemans' Fund Insurance Co	95	100
Pacific Insurance Co	12	15
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	95	100
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	90	91
Mining Stocks—Washoe District.		
Alpha	33	34
Baltimore American	—	—
Belcher	21	22
Bullion, G. H.	21	—
Crown Point	65	66
Cole (Va.)	—	10
Confidence	36	37
Consolidated Virginia	8	9¼
Chollar-Potosi	345	350
Daney	2½	3
Exchequer	10	13
Empire Mill and Mining Co	60	70
Gould & Curry	118	119
Gold Hill Quartz	39	40
Hale & Norcross	178	179
Imperial	101	101¾
Julia	2	—
Justice and Independent	4	6
Kentuck	245	246
Lady Bryan	18	19
American	26	27
Occidental	21	22
Ophir	25¾	26
Overman	85⅞	86
Segregated Belcher	9	10
Savage	115½	117
Sierra Nevada	42	45
Union	—	—
United States	—	—
Yellow Jacket	73¼	74
Miscellaneous Mining Stocks.		
Amador (California)	270	275
Aurora, White Pine	15	24
Eureka, (California)	200	220
Golden Chariot (Idaho)	43	44
Silver Cord (Idaho)	5	—
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocotillo, White Pine	10	15

Company Transactions.

New Incorporations.

Articles of incorporation have recently been filed in the County Clerk's office in this city, as follows:

San Francisco and Reveille M. & M. Co.—Capital stock, $500,000; 5,000 shares, $100 each. Trustees: Charles Lambert, F. F. Low, J. H. Blood, W. W. Dodge and G. W. Gordon.

State University H. A.—May 22d. San Francisco. Capital stock, $50,000; 100 shares, $500 each. Trustees: O. P. Fitzgerald, Edward Tompkins, A. J. Moulder, Theodore Bradley, George Tait John Swett and James Stratton.

State University H. A., No. 2.—May 22d. San Francisco. Capital stock $22,000; 40 shares, $550 each. Trustees: Rev. L. Hamilton, E. C. McComb, George Tait, Warren Holt and J. D. Littlefield.

Oriental Fire and Marine Insurance Co.—May 26. San Francisco. Capital stock, $100,000; 1,000 shares, $100 each. Trustees: John Bell, John R. Jarboe, H. Rosekrans, H. H. Bancroft, J. R. Sharpstein, H. Epstein, Jacob Deeth, J. N. Eckel, T. H. Hatch and W. H. Sharp.

San Mateo City H. A.—Capital stock, $220,000. Trustees: Leland Stanford, M. S. Latham and Gustave Mahe.

The following were filed in the office of the Secretary of State, Sacramento:

Starfield Mining Co.—April 22d. Sacramento. Capital stock, $400,000, in shares of $50 each. Trustees: James McDonnell, Robert Wallace, Edward Doyle, Joseph M. Williams and Thos. Robley.

San Lorenzo Creek W. Co.—May 22d. Sacramento. Capital stock, $120,000, in shares of $100 each. Trustees: A. S. Fuller, William Meek and G. E. Smith.

Meetings, Elections, Etc.

When not otherwise noted, the following elections may be considered as having been held in San Francisco:

Mining.

Continental S. M. Co.—May 22d. Trustees: C. T. Fay, (President) H. M. Blake, (Secretary) E. K. Howes, Wm. B. Swain and J. A. Eaton.

Phœnix M. Co.—May 24th. Trustees: J. C. L. Wadsworth, J. D. Fry, W. C. Parker, G. F. Walter and A. Cannon.

Bowden S. M. Co.—May 24th. Trustees: R. Sherwood, M. Tubbs, E. E. Haft, P. B. Clark and James Patterson.

Keystone M. Co. have filed a certificate of increase of capital stock from $50,000 to $250,000. Certificate signed by J. M. McDonald, President, and Louis Vesaria, Secretary.

Miscellaneous.

Oregon Central Military Road Co.—Election at Eugene, Oregon, on the 24th, to increase the capital stock to $200,000.

Columbia River M'fg Co.—27th inst. Officers elected for the first three months: President, J. B. Knapp; Vice President, N. W. Spaulding; Secretary, S. W. Backus; Treasurer, D. W. Grant.

Los Angeles and San Pedro R. R. Co. Los Angeles, 15th inst. Directors for the ensuing year: J. G. Downey, M. Keller, P. Banning, O. W. Childs, J. S. Griffin, S. H. Mott, John King, H. W. Hellman and Wallace Woodworth. The Board of Directors subsequently elected Hon. John G. Downey, President; O. W. Childs, Vice President; Col. T. L. M. Chipley, Secretary; S. H. Mott, Treasurer; and Col. Flint, Engineer.

California Steam Nav. Co.—May 24th. Trustees: B. M Hartshorne, W. H. Taylor, A. Redington, Lloyd Tevis, A. Hayward, S. F. Butterworth, W. C. Ralston, C. L. Low and William Alvord.

Hamilton Square H. A.—May 24th. Trustees: E. Bauer, (President,) B. P. Avery, (Vice President,) Robert White, (Secretary,) Charles Kaeding, (Treasurer,) and David Norris.

The reason why Muller's Spectacles meet with such unbounded success, is owing to his knowledge of the wants of the eye and his ability to adapt glasses to its various conditions. Try him. 205 Montgomery street. *

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Tarshish.—*Miner*, May 15th: Every day brings a quantity of good ore, and every day the Director becomes more convinced of the value of the mine.

Imperial.—Twenty feet run last week in this tunnel. This week a stratum of talc was cut and porphyry entered. This belt of porphyry is thought to be about 50 feet wide, and commands the western approach to the first lode of the Imperial series.

Pitching In.—Mr. Ray is going ahead with his tunnel on the Mountain claim, at the rate of 10 or 12 feet a week, encouraged by the near approach of Monitor mill to completion.

Morning Star.—An assessment of $1 per share is levied by this company.... The Pittsburg Co. are steadily making headway in their tunnel up Scandinavian Cañon..... The Pennsylvania Co. having drifted each way on the casing of their lode 50 feet, are now making cross cuts to test the ore.

Giant Powder.—*Chronicle*, 15th: The Mountain Co. has commenced the use of Giant Powder.

AMADOR COUNTY.

Coney.—*Ledger*, May 25d: The new shaft is down 85 feet, through good rock. When 100 feet steam hoisting works will be erected. From the old shaft they are raising rock sufficient to supply their own mill, the Kearsing, and it is the intention to commence, in a few days, hauling ore to the Hardenberg. The chlorination works are kept in full blast night and day. The prospects of the company never looked more flattering.

BUTTE COUNTY.

Inskip.—Oroville *Record*, 22d: This locality is again attracting attention. Recently a stratum of earth has been discovered which prospects very rich, is quite extensive, and affords opportunity for hydraulic operations. Mr. S. L. Dewey and others, engaged in opening the claim, are confident that they have struck hydraulic diggings that will equal those of Timbuctoo or Oroville.

CALAVERAS COUNTY.

Petticoat.—*Chronicle*, 22d: The machinery has been removed from the old shaft to the new, the mine freed from water, and the shaft sunk 128 feet, all at an expense not exceeding $3,000.

INYO COUNTY.

Kearsarge.—Gold Hill *News*, 24th: Gen. Winters and Charles Van Gorder, both stockholders, returned to Gold Hill a day or two ago, from a visit to the Kearsarge mine and mill, Owen's Valley. The object of the visit was to make arrangements to start up the mine and mill.

NEVADA COUNTY.

Miners.—*Gazette*, 18th: Miners from Australia who arrived in Nevada on Saturday, have been employed by the Banner. These men are accustomed to the single-hand drill, and are willing to use the giant powder.

Sheriff's Sales.—Same, 19th: The Sheriff, yesterday, sold on execution the property of the Nevada Quartz Mining Co., of the Coe Co., and the Jackson ranch. The Nevada mine is on Deer Creek, a mile below town, and has a twelve-stamp water mill. It was sold on a judgment in favor of Michael Reese, and was bid off at $14,300 by Mr. Allen, agent for Reese.

Allison Ranch.—Same of 20th: They are now pumping out water from the lowest level, 300 feet perpendicular. On Saturday it is expected the mine will be free from water. The shafts and tunnels, and all the timbers in the mine, are as perfect as when the mill closed down two years ago. Thousands of tons of waste ore from the old dumps are being crushed at their 12-stamp mill, about thirty tons in twenty-four hours. They have enough to keep their mill running six months. A large amount of this waste rock was taken from the best portions of the mine, and is very rich.

North Star.—21st: This mill starts up this morning to crush 200 tons of good rock, that it is estimated will yield about $10,000. The owners thought best to have the rock on hand crushed and out of the way and then close down until permanent arrangements can be made about working the mine. Yesterday the company paid off their men, the amount of over $15,000.

Buckeye Co.—*Transcript*, 18th: After the last run, on Saturday they cleaned up $4,000. This company purchased a tail flume in Sweetland creek five or six months ago. This is cleaned up every week or so, and the company will have paid, in a short time the cost of the property, and improvements.

Improvement.—Same, 19th; The North Bloomfield Gravel Mining Company are surveying the line for the purpose of extending their ditch from Little Cañon to Big Cañon Creek. They will put 100 white men and as many Chinese as they can get upon the work, and hope to complete it in sixty days.

You Bet.—20th: Timmons & Co's claims are yielding handsomely. Neece & West are getting ready for washing off the surface in their cement claims. Brown Bros. continue to take out large amounts from the blue cement claims at every run.

Empire.—Grass Valley *National*, 22d: Captain Lee, of the Empire, secured the services of forty miners, most of whom are Americans, and will go to work on Monday and Tuesday. As soon as enough rock is taken out for crushing, the mill will be again started up.

Dromedary.—*Union*, 19th: It is reported that the mine will be pumped out and work resumed as soon as arrangements can be made. It passes into the hands, rumor has it, of Frank Morse.

Allison Ranch.—Same of 22d: Day before yesterday the noses of the pumps struck the mud, and the mine is now free of water. It is the intention of the company to sink deeper on the ledge and to open up new levels, before they take any quartz out of the now opened levels.

PLUMAS COUNTY.

Argentine.—Quincy *National*, 15th: The miners are doing extraordinarily well. Heath & Co. are making $20 per day to the hand, sluicing. Killey & Archer have completed their bedrock cut, and commenced taking out pay. Their claim is considered good for an ounce per day to the hand.

Twelve-Mile Bar.—On Rich Gulch, Conrser & Jackson have been piping for some time. They will commence cleaning up after two weeks' further run. McBeth & McNecly are still sluicing, but will be done in a short time. Their prospects are good.

Sheezer & Co., on Dinghat Flat, have commenced to clean up. Hallsted, Mower & Co., on Terry Hill, have piped off a large amount of ground, and will not commence cleaning up until water fails.

Hyde & Co., and a Cornish Co., on 12-Mile Bar, have been doing moderately well.

Some work will be done in the river. Ward & Brown will put in two flumes, one in their old claim below 12-Mile Bar, and the other above Dutch Bar, adjoining the old Hardsock claims.

SANTA CLARA COUNTY.

New Almaden.—Grass Valley *Union*, 22d: We are informed that the expenses for labor of the New Almaden quicksilver mines have been heretofore about $40,000 per month, and that with the use of Giant Powder this can be reduced to $30,000. The men object, and it is probable that the mine will be closed until men can be found who will work the new explosive.

SIERRA COUNTY.

Scales' Diggings.—Correspondence of Downieville *Messenger*, of 22d: The miners here are doing very well this season, but the water is failing fast.

SISKIYOU COUNTY.

Cottonwood Quartz Ledges.—Yreka *Union*, May 22d: A tunnel has been extended into the Norfolk from 45 to 50 ft. on the ledge; the ledge is two feet thick, and the rock of the richest character. This ledge has increased steadily in size and richness as they have gone farther into the hill. The Lodi, also, though neither so large a ledge nor apparently so rich, is developing rock that sparkles with gold, while the ledge has increased from 8 or 10 inches up to 15 inches in thickness.

Changed Hands.—Coughlin, Daggett & Co., of the Black Bear Quartz Co., on Salmon, have purchased the Union Quartz mill and ledge. The Union is a steam mill, and was built some five or six years ago, in a most substantial manner, with all the improvements then known.

TRINITY COUNTY.

Good Pay.—*Journal*, 22d: Twenty-four hundred dollars was recently taken out of a claim on the west side of Trinity River, known as Field & Culver's; the result of 56 days' drifting by four men.

Letter from Trinity Center: Stotson & Crocker have opened a paying claim, in the hill, 200 yards south of Hatchet Creek. Whitmore & Boynton are at work with apparently good fortune. Tom Coyle's claim is paying better than at any previous time. A company is organizing for the purpose of opening a river claim at the mouth of Snow Gulch, three miles north of town. Work will be commenced about the first of July. Weeden's discovery, on Mule Creek, near Minersville, has created a stir in that neighborhood, and five or six companies are already at work. The claims are undoubtedly good, and there is ground to work for several years.

YUBA COUNTY.

Pennsylvania Mine.—*Appeal*, 25th: We learn that the water has been pumped out to near the lowest level, and the Superintendent is engaged in retimbering. It is expected that the mine will commence crushing next week, there being any quantity of first-class rock accessible.

ARIZONA.

Prescott *Miner* May 1st: The Sterling is looking better than ever. The Montgomery is looking fine. So is the Chase, Tie-Tie, and other ledges now worked. The news from the placers is fully as good. At Black Cañon, on the Upper and Lower Hassayampa, at Weaver, on Lynx creek, in Big Bug district, the miners are doing well. Lynx creek, in Mr. Shoupe's claim, two men, in two days, shoveled into the sluices fifty-four dollars.

The following items are from a Prescott letter of April 25th, to the *Bulletin;*

Sterling.—Everybody busy making preparations for the new 10-stamp mill shortly expected. Several hundred tons of ore have been worked in the old battery, some of it yielding as high as $32 per ton in free gold, the great bulk of gold being left in the sulphurets, to work which chlorination works have been erected. There is a great abundance of ore, and if there is no hitch in the extraction of the gold, I predict for this mine a brilliant success. It is owned in San Francisco. I saw some 50 pounds of sulphurets from the mine, worked in your city, that yielded $484 per ton. Assays recently made here go over $600 per ton. * * From a small vein running under the Sterling mill. I was shown some beautiful specimens of silver ore. All around here are ledges on which more or less work has been done, and nearly all of which make sufficient show to warrant exploring them further. With such a delightful climate, such agricultural resources, and such an abundance of wood and water, mining ought to be carried on here almost as cheaply as in California, and more cheaply than in Nevada. If this country were opened by the 35th parallel railroad, the section immediately around Prescott would produce more bullion than Nevada produces to-day.

COLORADO.

Ward District.—Central City *Register*, May 13th: It is reported that the Ni-Wot Company's property has changed hands, that Ed. Larned and C. P. Dixon, of New York, and Theodore Pomeroy, of Pittsfield, Mass., are the owners, and that an English Company associated with them will erect smelting works after the Swansea plan.

Trail Creek.—A. S. Bennett is putting in a foundation for a stamp mill. He will run seven stamps and pans, on ore from the Cleveland lode. Dr. E. F. Holland, on the Coyote and Kelley lodes, is taking out some very rich ore. We saw several specimens, showing free gold. Two miles up, at the old town, Judge Colvin is putting in a foundation for a 10-stamp mill. It will have pans and Bruckner furnaces. The Colvin Company's best mine is on the Freeland lode, the best vein yet opened in the district, it having been worked for a distance of over 4,000 feet. John Schriver is going to work on the Mayflower.

Richard White took out with two men last week in Russell's Gulch, 6¾ ounces of gold, worth $21.75 per ounce (currency). Two cords of ore from L. A. Klein's claims on the German lode, has been crushed, which yielded over 18 ounces gold per ton. ....California Gulch is the center of excitement, owing to the discovery of a wonderfully rich lode. A specimen valued at $500 is now on exhibition at Denver, with about $1,500 fine gold that had been panned from the crevice material during the past month or two.

There were running yesterday, from the Kip mill down, 500 stamps. There are 45 in Lake Gulch, 12 in Russell, in Nevada over 100, in Leavenworth Gulch and on Quartz Hill 32, in Eureka 30; making a total of 717 stamps running in the county. One hundred more will be ready in a few days. The great want is transportation. Sid. Parent is opening the Andy Johnson lode, on Bobtail Hill. It pays five ounces of gold to the cord.

Briggs Mine.—Eighteen men raise 35 cords of ore per week. About 15 tons is selected out and sold to the smelting works at an average of $60 per ton. The balance is run under stamps, yielding 6½ ounces per cord. They keep their 50-stamp mill running constantly day and night, besides selling nearly $1,000 worth of smelting ore per week. Some of the ore is exceedingly rich.

North Empire.—This camp is reduced to a population of thirty, but these are all busy, and most of them making money. The principal mines now worked successfully are the Conqueror and Equator. The former is owned by the Disbro Bros., who have a shaft 250 feet deep, with a large frame house over it, enclosing a 30-horse steam engine and boiler, spool hoisting works, etc. In the shaft their crevice is nine feet, but as they have to haul their ore over two miles, they only save the best streak, which yields $200 coin per cord. The balance, worth $75 per cord, is thrown over the waste dump. Cheatley & Mack, on the Equator, have a vein of pay ore from 12 to 20 inches in width. None of it has been reduced yet, but it prospects $200 per cord. They have three arastras, one of which is running.

Lake County.—Denver *News* correspondence, May 12: Major Harry Hill, on the Yankee Blade, has sunk 20 feet in two weeks, with a 10-horse power engine to pump. The weather having cleared up, operations will commence on the gulch claims. The Gaff Company have started in. For the last month parties have been rocking on the river bottom, doing well. There is scarcely a point along the Arkansas, in this district, that will not yield a prospect, and with the rocker, men have made from $3 to $12 per day.

South Park Items.—Miners are rapidly preparing for work. About Fairplay work will be on a larger scale than last year. Beaver Creek and Four-Mile will also be worked extensively. Dan. McDaughlin has started one sluice on new ground, which he thinks will pay well.

California Gulch.—The Pilot and the Five-Twenty lodes have already proved themselves equal to the best in the country. The last prospect from the Pilot gave 16 pennyweights of gold from a double-handfull of dirt. The rich streak is from four inches to three feet wide.

James' Creek.—The correspondent of the *Pioneer* says: Mr. Tomlinson is running an arastra at Jamestown, and his last clean-up, from less than one-fourth of a cord of rock, gave a yield of 27 dwts. of gold. Mallory and Strock are also each running arastras, and taking out from $75 to $200 per cord. J. Virden is building two arastras. Mr. Bachelor is having a wheel built to run eight more. Three boys have discovered and opened a silver lode, by sinking on it a shaft 30 feet deep. Neither of the boys is over 15 years old.

IDAHO.

The Idaho City *World* of May 13th, gives full notes of a recent tour of the "Basin." We quote here and there: All the way up Elk Creek, on both sides of Gold Hill, and in the bed of the creek, which is being stripped of its 20 or 30 feet of tailings and worked clear to the bed rock by Chinamen, mining is going on day and night, by hydraulics, sluicing, ground sluicing and drifting, and with good pay. Up Spanish Gulch, and in Bahoon Gulch, we saw miners making preparations for the short but profitable mining season which the water from the ditch of Camphell & Thatcher affords.

Centreville.—Those who had made clean-ups found their claims rich as ever, and contrary to expectations in March, there is promised a season of unusual length and ample water.

Pioneer.—This is still a good mining camp. We were shown several hundred pounds of ore from the Duncan mine in Charlotte Gulch, four miles from Pioneer. Assays have yielded, of gold, from $27 to over $1,000 per ton, and of silver from $40 to $180 per ton. The mine has two tunnels, one 187, and the other 450 feet. About 500 tons of ore is ready for crushing, and it can be delivered at the dump at a cost not to exceed $2 per ton.

Placerville.—From the town can be seen, within the area of less than a mile, 20 hydraulics, with full heads. The trouble which existed early in the season about water, was settled, and now the ditches are all owned by Devine, Ellis, Crowley & Co., who also own extensive claims on Granite Creek.

Granite Creek.—The claims on both sides are busy day and night. The great bed-rock flume, which belongs to four separate companies, and extend for nearly a mile down the creek, are also busily worked, and not an idle man did we see in the camp. So far, the miners had not made any clean ups, and most of them will not for two or three weeks yet, and then money will be plenty. Work on the Gold Hill Quartz Mine will be resumed in a few weeks. An extension of the same ledge prospects richly.

Ida Elmore.—Owyhee *Avalanche*, May 15th: The main shaft is down 250 feet.

The vein is about 3 ½ feet wide, containing ore as rich as has ever been extracted from this mine. There is a level of 140 feet opened ready for stoping, which will enable the mine to produce from 25 to 30 tons per day for some time. There is quite a pile of ore at the hoisting works.

GOLDEN CHARIOT.—The principal shaft has attained a depth of 280 feet, the ledge averaging from two to three feet, composed of very rich ore. There are 400 tons of quartz in the ore house.

SILVER CHORD.—The main shaft is 132 feet deep. The ledge averages now 2 ½ to 3½ feet in width, and the ore excellent.

WAR EAGLE MINES.—*Tidal Wave*, May 18th: The Baxter main shaft is now down 180 feet, and the company are making arrangements to sink 100 feet further immediately. They have large quantities of stoping ground in sight which they will work out as soon as possible....The Golden Chariot advertises for proposals to sink the main shaft 25 feet each way on the third level.....The Silver Chord continues to develop splendidly. The shaft is 140 feet deep and exhibits a good paying ledge all the way down....Col. Fogus is working the Peck & Porter with 12 men....The Cordroy is proving very rich. About 200 tons of ore on the dump is said to be equal to that of the Golden Chariot....It is expected that the Poorman shaft will be down by the 12th of June, deep enough for the contemplated new levels.

MONTANA.

GOLD CREEK.—Helena *Post*, May 7th: The excitement has subsided. The company has concluded to sell water at the old price, and the miners have all gone to work.

REYNOLD'S CITY.—The miners are hard at work, and the new gold is beginning to circulate.

BLACKFOOT.—Every one is busily at work, and the mining prospects are cheering.

Same of 14th: Taylor, Thompson & Co. have commenced work upon their claim and are running day and night. They have added a new engine and much improved machinery to the apparatus for hoisting and elueing.

LINCOLN GULCH.—Perry thinks that there will be more taken out this summer than ever before. The supply of water is abundant.

CONFEDERATE.—Bedrock flumes are in full blast and are all doing well. The flumes of King & Gillette, Sherwood & Co., and Thomas & Co., all have the most flattering prospects.

DEER LODGE ITEMS.—From the *Independent* we learn that the miners in Bear Guleh are hus y, and the mines yield richly. ....The miners of Silver Bow are commencing work....Some specimens of rock from the Tiger and Day lodes, Moore Creek District, are said to be unusually fine, containing one-half silver. It is said that the company have some 200 tons out. It is estimated that this rock will yield about $150 per ton.

NEVADA.

REESE RIVER.

MANHATTAN BULLION OVERLAND.—Austin *Reveille*, May 15th: This morning Mr. Curtis, Supt. of the Manhattan, shipped overland to New York 55 bars of silver bullion, weighing 4,747 pounds, valued at $70,739.80. This is the third considerable shipment of Bullion from this city overland to the Atlantic.

WASHOE.

IMPERIAL-EMPIRE. — *Enterprise*, 18th: The Imperial and Empire companies are now sinking their new shaft deeper. The sump is cleaned out and the shaft put in order for the purpose. The shaft is 1,104 feet deep, and the bottom of it is just cutting the east clay wall of the old Comstock. As the known dip of the ledge—45 degrees—is maintained at that point, it will take at least 200 feet of perpendicular sinking to reach the west wall. Within that distance some good bodies of ore must certainly be encountered, and most probably that demonstrated to exist at the lower levels of the Yellow Jacket, which tends in that direction. It is the best move they have made for months, and the only regret is that they did not do it sooner.

SIERRA NEVADA.—The Sierra Nevada Mining Company are taking out a large amount of paying ore, and the mine is looking as well as ever.

OCCIDENTAL.—Same of 19th: There was a rumor yesterday that a cave had occurred in this mine which did considerable damage. The fact is that the cave occurred in worked out ground, and at a point where the company cut out all the pillars of ore with the intention of allowing it to come down.

OPAL.—Work has been resumed on the old Opal mine, in Flowery, with flattering prospects. The ore is similar to that in the Lady Bryan. This mine created a sensation in 1863.

NOVEL BLASTING.—20th: During the past three days, a series of experiments in blasting have been made in the Sierra Nevada mine. Holes were sunk to the depth of 12 or 15 feet, and a light charge of giant powder, without tamping, placed in the bottom, on exploding which a large basin was formed—the giant powder acting with its greatest force downwards when no tamping is used. A keg of common blasting powder was then poured down, and the hole tightly tamped with sand. Charges thus put in did immense execution, throwing out tons upon tons of ore. General Van Bokkelen informs us that much of the rock thrown out was exceedingly rich in gold, and that he picked up some pieces filled with beautiful specimens of crystallized gold.

THE DISABLED MINES IN GOLD HILL.—*News*, 22d: The Yellow Jacket is working as usual, with about half its former force. The Kentuck is hoisting ore for the supply of the Sunderland mill. No ore comes from the Crown Point as yet. They are busy to-day putting in a sort of wooden box air-pipe about a foot square, leading from the 900 foot level of the Yellow Jacket through the Crown Point mine, in order to give the Yellow Jacket a good draft of air, and yet not allow a circulation of it up through the workings of the Crown Point or Kentuck, where there may possibly be some fire still burning.

STILL BURNING.—Same of 28th: The fire was discovered to be still burning at the 800-foot level of the Kentuck and Crown Point, and, the gas and smoke increasing, it was decided to close the fire in and let it have its own time. Accordingly from the 800-foot level up to the surface all the stations were tightly blocked up in the vicinity of the Crown point shaft. The fire will now be kept shut in until fully extinguished, if it takes a year. Both the Yellow Jacket and the Kentuck are sending out ore—the Kentuck from the upper levels. Drifting east for the ledge is being prosecuted, at both the 1,000 and the 1,100 levels of the Crown Point, beneath any possibility of fire.

OREGON.

WILLOW CREEK MINES.—The *Herald* learns that times are dull, but the ditch from Burnt River will be completed in a short time. There appears to be no doubt that the diggings are very rich. The scarcity of rain will not give as much water as is desired, yet will furnish enough for about 1,000 men.

CHINA.

SIX WEEKS IN SHANTUNG—COAL.—Mr. Markham, British Consul, accompanied by Messrs. Williamson & Wilson, says a Chefoo writer of April 18th, in the Shanghai *News Letter*, have been making a six weeks' tour through the Shantung province. Mr. M. obtained much valuable information regarding the mineral and other products. He found a Shanse merchant working coal mines in the Poshan Valley, who, if left alone by the Mandarins, would be able to lay down coals in Chefoo as low as $4 per ton. Large quantities are being extracted for local consumption from the Wei-hsien and Poshan Valleys; but the taxes are so ruinous that a prohibition is thereby put upon its conveyance to Chefoo. The Imperial tax is, however, light, and the first cost of the coal is but 60 cash per 100 catties, at the pit's mouth.

JAPAN.

COAL.—The Yesso coal mines, though blocked up by snow for some time past, are in a fair way for opening soon. The superintending engineer, Mr. Erasmus H. M. Gower, has been in Yokahama during the winter, and pending troubles at the north, leaving Mr. Scott, late engineer at the steam saw mills of Hakodadi, in charge of the works; and notwithstanding the many present difficulties in the way, all the plans are being ably carried out for their successful operation.

TO KEEP A STOVE BRIGHT.—Make a weak alum water, and mix your "British Lustre" with it; put two spoonsful to a gill of alum water; let the stove be cold; brush it with the mixture; then take a dry brush and lustre and rub the stove until dry. Should any parts, before polishing, become dry so as to look gray, moisten with a wet brush and proceed as before. By two applications a year it can be kept as bright as a coach body.

REMEDY FOR THE TOOTHACHE.—Toothache, according to the London *Lancet*, can be cured by the following preparation of carbolic acid: To one drachm of collodium add two drachms of Calvert's carbolic acid. A gelatinous mass is precipitated, small portions which, inserted in the cavity of an aching tooth, invariably give immediate relief.

White Pine Summary.

ITEMS OF PROGRESS.—The *News*, 14th: The Agency of the Bank of California yesterday shipped eight bars of bullion, valued at $9,400, from ores from the Consolidated Chloride Flat Company's mine, crushed at Shaw & Felton's mill. By the first of June the company will have in operation their own mill of 24-stamps, one mile and a half from Hamilton. A fine body of ore has been struck in the Montauk. Assays range as high as $100 to the ton.

The West Point is taking out rich chlorides....The Base Metal Range is again attracting attention....The Kohler Mill commenced on ore from Aurora Consolidated on the 17th....The Eberhardt is employing more hands....The Treasure Mill Company has struck a fine supply of water in its tunnel. The mill of the company has started up on custom ore....Bullion Hill, north end of Base Metal Range, shows fine ore

PATTERSON DISTRICT.—*News*, 17th: Mills are wanted. As an inducement Mr. Murphy comes to this city prepared to offer 300 tons of ore, which will be guaranteed to yield over $100 per ton, a suitable site and plenty of water, to any one who will immediately construct a 20-stamp mill in the district.

BULLION. — *Empire*, 18th: Shipped by Wells, Fargo & Co., from Hamilton, from Collins' mine, two bars bullion, weighing 63 pounds, and valued at $3,024; seven bars, valued at $7,923 72; two bars, valued at $,452 42. The last nine bars will go overland to New York.

Our agent, W. H. M., sends us the following notes from Treasure City, Nevada:

TREASURE CITY.—I started from here at an early hour for a tramp among the mines of this district. On my way up Main street, I met an old friend, Mr. C. Ells, who accompanied me to the Zubrick mine, located on Bromide Flat, where I found about 200 tons of second-class milling ore piled upon the dump. Descending the shaft, I found myself among the miners breaking out the ore. I saw a large quantity of first-class ore stowed away in the drifts, which they would not raise to the surface on account of the great loss incurred there by "speeimen hunters." At a depth of 20 feet could see a plenty of ore in place, which would assay from $200 to $1,000 per ton. The ledge or layer is about eight feet thick, so far, and no bottom yet. Some of this ore may be seen at the *Alta* office, in your city. This is a very valuable mine, and well worth a visit.

We next passed on to the Grinnell ledge, and went up on the side of the low hills of the Base Metal Range, on the road from Shermantown to Treasure City. Here we saw a very fine base metal mine, standing almost perpendicular, and 12 feet wide, with well defined walls. It was located Dec. 25th, and the owners are well pleased with their Christmas gift. The ore is of a fine quality, assaying from $100 to $900 per ton. This is thought to be a valuable mine, and has been stripped down some 12 or 15 feet from the top. Well informed persons express the opinion, from experiments already made, that the ores of the Base Metal Range will readily yield to smelting processes, and that the mines of that district will soon prove as valuable as they certainly are extensive.

We next called at the Schwer ledge, situated on the crest of the hill south of the Big California mine. The company has gone down 21 feet and have good prospects. The ore is specked with antimonial silver. They propose to resume work at an early day.

We came next to the Matilda mine, where we found two men at work. They were down about 15 feet, with good indications of chloride.

The prospects hereabout appear to me encouraging. The fact of the existence of good mines here will soon be proven. Men are also almost daily going out into distant sections, and the feeling is quite universal that good mines will be found all the way to the Colorado River.

The snow has all gone from the hills about Treasure City, and is fast disappearing from White Pine Mountain also. To some this is a welcome fact, while others, who have hitherto melted snow for cooking and drinking purposes, and now have to buy water from Hamilton at eight cents per gallon, are not so well pleased. The necessaries of life are very high—meals and bunks, $1; lumber, $225 per M on the hill, and $200 to $212 at Hamilton. Quite a number of wooden shanties are going up in the three towns, and now and then a stone house.

Good reports are received from Grant, Patterson, Snake Mountain, etc. On this flat, at Bromide, Pegonip and elsewhere in this vicinity, holders claim six and eight hundred feet on the ledge. The oldest holder or location holds the ledge, and if they can run into the working of another, within the bounds of their claim, all right, and the first locators take the shaft. It often happens that a party will "set to" some twenty feet or so from a paying claim, go down with a shaft and work with a will getting out ore, until the original locators run a drift to them upon the vein, thus proving priority of claim.

PATTERSON.—A gentleman from this district, located about 85 miles east of Treasure Hill, assures me that Patterson will soon become a prominent mining camp. It is bountifully supplied with wood, water and well defined ledges, yielding by mill process from $150 to $200 to the ton. It is surrounded by well watered valleys suitable for agricultural purposes. It already boasts of several stores, a blacksmith shop, etc. As there is an abundance of ore, the miners offer good inducements to capitalists and millmen.

THE ALEXANDER MINE.—On my way to Shermantown I visited the above named mine, with the value of which I was so much impressed, that I feel justified in giving you a brief notice of the same. After passing down the grade from the Eberhardt, and coming to the point immediately below the Seymour, I reached the Rosebud, which you have already noticed, and which I did not stop to examine, but kept on down the hill about 400 yards, where I reached the Alexander mine, located on the point of the ridge running directly down from the west end of Pegonip Flat, and a few hundred feet below the rich McCarthy, and Seymour or Hearst claims. It appears to be a well defined ledge, and it has been traced along the sidehill some little distance, exposing good looking ore. As far as they have gone in on the ledge—about ten feet in one place—taking out about 12 or 15 tons of ore, well filled with chlorides and argentiferous galena, the ledge has increased in thickness from a few inches to between three and four feet. It has a dip into the hill of about 30 degrees; several assays from near the surface have yielded from $65 to $190 per ton. The location seems to be a good one for a permanent mine, as it dips into the hill toward Chloride and Bromide Flats, and is but a few hundred yards below those celebrated localities. The owners think they have a "good thing," and more especially as there are no conflicting titles, which is an important item in this district.

Leaving the Alexander mine, I went down the grade about a mile, and nearly opposite the Lime Kiln found the "Samuel Franklin" Ledge, a hold, well defined mine, of apparently broken quartz, filled with mineral matter—showing chloride and galena quite freely. It has every appearance of being a true fisure vein, as it is nearly perpendicular with both walls clearly defined, and where the mine is opened, eight feet apart. The vein can be traced along the hill, each way for several hundred feet. I was informed that assays from this mine ran from $75 to $225 per ton in silver. The location is the oldest in the vicinity, and consequently the owners feel that they have a sure title, with a fair assurance of prospective fortune.

THE PHOSPHORIC LIGHT.—Mr. Winstanley obtained a powerful light for photographic purposes in the following manner. A quantity of phosphorus was placed in a suitable vessel; through this vessel a current of common coal gas was passed, the direction of the stream being so regulated that it could pass over the phosphorus and then escape through a jet fitted for the purpose. When the phosphorus, heated, commences to volatilize, the luminosity of the flame greatly increases, owing to the combustion of the phosphorus vapor, and fumes of phosphoric acid are produced.

Mr. Winstanley pointed out that the intensity of the light could be greatly augmented by feeding the phosphoric flame with pure oxygen. When this was done, "The brightness of the flame was enormously augmented, and the ample room in which the experiment was conducted became brilliantly illuminated."

THERE are more papers published in San Francisco, with its 130,000 inhabitants, than there is in London, with its 3,000,000 souls. It seems remarkable, but it is nevertheless true.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, May 29, 1869.

Notices to Correspondents.

Thistle.—The latest account of the Kildonan gold diggings of Sutherlandshire, Scotland, is to the effect that they scarcely yield on an average a Highland laborer's ordinary rate of day's wages. A fresh rush of adventurers had taken place, owing to the cessation of the winter fishing on the Caithness coast, the newcomers bringing with them their boats, making therewith temporary dwellings, the upper parts being formed of boats laid keel upwards, and the walls composed of heather interwoven between the supporting posts. The highest figure realized by the luckiest seeker is said to have been $50 in one week. As of general scientific interest, we clip the following from a late English paper: "An explorer announces that during his investigation into the auriferous nature of Scotch quartz, he has discovered small quantities of platinum associated with the gold there existing. The platinum exists in the form of small scales, resembling silver, but they are not magnetic.

Archæologist.—No remains of man have so far been found of an antiquity equal to what is denominated the glacial period. The marked changes of temperature between the older and newer pliocene strata has so far been most strikingly exemplified in the series of beds known as the Norwich crag, in England, the lower series containing fossils indicating a warmer climate than that now existing in England. The next following beds exhibit fossils of an Arctic character, the cold increasing gradually in intensity, with some oscillations into the superior beds, until it reached its maximum in what has been called the glacial period. The marine fauna of the period last alluded to, contains, both in Ireland and Scotland, species of mollusca now living in Greenland and other seas far north of the areas where their remains are found in a fossil state.

One that is Curious, Benicia—Wishes to know if it has ever been ascertained in what consists the difference of effluvial power between the white and dark-skinned races. Dr. Starch, of Edinburgh, published a work on the emission and absorption of odors, which contained the result of some curious experiments. According to the Doctor's theory, the tissues of animal substances possess a greater affinity for odors than vegetable ones; also, the absorption of odors by outward tissues follows the same law that obtains respecting the absorption of caloric, that is, black tissues absorb the most odor, and this absorbing power diminishes as the color becomes lighter, white tissues being those which absorb odor the least.

Not Dead Yet.—A paragraph has been going the rounds to the effect that Capt. Ericsson died recently of hydrophobia. The statement is not true; the man referred to in the original paragraph was named Eckerson. We shall hear more of the solar engines yet.

A Glance Across the Pacific.

One of the explorers of Central Asia under British East Indian auspices, Robert Von Schlagintweit, has arrived in this city by the Pacific Railroad, and is expected to lecture on the subject of his researches in that country in German, at least before one of the German clubs, perhaps if not in English. We need scarcely to remark the self-evident truth that Asia and the mystery of things Asiatic, the ethnological and physiographical wonders of that cradle of the Caucassian race, possess a peculiarly fresh and direct interest to Californians, who view them not as in the Orient, but "westward," and due in the "star of empire's" course; a more immediate interest, because looking to the future, than they can possess to the purely philosophical-minded philologians of Europe, or to those who approach Asia commercially through a hazy sea of preconceived notions dating back one thousand years. There are not wanting, in our midst, those whose reading and application of ideas to every-day life, embraces the field of the oriental exploration and publication societies. To us there is a new, and in general a practical bearing to every question touching upon the capabilities, the resources, and the moral influences of our *vis-a-vis*, which cannot fail to give a special zest to all published matter, and to lectures on that subject.

From the *Friend of India*, of Jan. 21st, we learn of the existence of great ancient gold fields in Central Asia, that were recently visited and described by Captain Montgomery with the assistance of several natives, all in disguise. Having crossed the Himalaya and traveled northward beyond the Indus into the elevated regions of Western Thibet, the party encountered a heavy fall of snow in midsummer, and in the district of Thok Jalung they came upon a camp of gold diggers. This is the principal gold field in Western Thibet, being situated on a desolate plain, 16,000 feet above the sea. The Asiatic gold diggers were born and lived, in these elevated treeless tracts, pursuing gold mining as their permanent occupation. Nuggets of several pounds weight are spoken of.

We know that the Russians have been quarreling with the Chinese about gold fields not far from these regions—situated between Aksu and Ili, in Western China—and the fact becomes apparent that numerous portions of Central Asia, from the middle of Asiatic Russia, (the paying silver mines which have been long and extensively worked by the Muscovites in the Altai Mountains,) to Central China, there is an important auriferous region worthy the attention of, if not of our restless miners, at least of those Americans who have a fancy for building railroads for the Czar, or who would undertake a job of the same kind for the Emperor of China. With labor at the Asiatic standard, gold mines, iron mines, and coal mines now considered valueless—by us from scarcity of economical labor, by Asiatics from scarcity of available skill—might obviously be worked, by a little well-directed capital, to an immense profit; while success in any such enterprise could not fail to result soon in the most important and decided advance steps recorded of any race or races in the history of civilization.

We of the West are just learning to talk with Asia, and to be understood. We find our Chinese population to be the best patrons of our public conveyances, of express offices, and of the telegraph. While Americans are holding, and operating under Chinese telegraph franchises, and running Chinese river steamers, introducing China *pro forma* to Europe, we are encouraged to hope that the intelligence of the astute Prince Kung will not long be held in abeyance, to admit of much further conservatism or delay in his deciding in favor of the concession of inland residence to Europeans—a treaty question, the favorable settlement of which would at once remove all difficulties in the way of the great desiderata of inland trade, communication, mining, and transportation, and the denial of which constitutes our bar to progress in that direction and the real impediment to the advancement of China at the present time. American, Russian and English interests even in Central Asia have grown into a tangible fact, the importance of which is but faintly foreshadowed, it is true, yet it is unmistakably one of the new and striking phases of the "times."

Neglected Resources.

When two men are seen staring fixedly into the sky, there is very apt to be a crowd of the "intelligent public" gathered in a few minutes, staring hard in the same direction. This is the same characteristic of humanity in general that "Pro and Con" (our correspondent on another page) complains of in deprecating the tendency, amongst miners especially, to drop everything even of substantial prospects, under the influence of a new and overweening mining rush. Real estate, commerce, and manufacturing, produce daily examples of this human weakness, when it is weakness, the nature of which is two-fold: being too easily carried along by a current because one does not act habitually upon individual information and conviction; or a shrewd idea that where the crowd goes to buy, things must be cheap, yet lacking in that kind of judgment which tells us at the same time what makes the crowd go hither or thither. These are the business man's every-day note-takings; his safety, and rule of success in large undertakings, are his independence and self-confidence, based on a clear and thorough understanding of the whole matter in hand.

Mining with many is gambling; but with a large and growing class it is nothing of the kind. The times in these regions have changed, evidently, for stocks are not to-day every poor man's currency. Mines are classified into dividend and non-dividend paying. The amount of necessary risk in the undertaking of mining enterprises is becoming greatly reduced to those who are gifted with only an ordinary degree of common sense—a commodity incompatible, it must be remembered, with the idea of mining as entertained by that large class who take to it in the first place, or who pursue it, *imaginatively*. Mining "sharps," however, will always flourish; while mining experts will not fail to be estimated by the amount of money they can *save* a company, rather than for what they may spend.

The question of hard cash is, with most of the older and prospected districts, the real one. The margin perhaps is found very small, and the energy is not existing to overcome immediate but in many cases trifling difficulties, which alone prevent properties that are held at inconsiderable prices, from being recognized as worth their hundreds of thousands. Very frequently there is a metallurgical difficulty. But time, and a little more light from dear experience, regarding the features of different districts and the minerals constituting their ores, will teach us speedily enough what are the really favorable considerations that shall cause one district to rise, while another must fall into decay. To the practical miner or metallurgist information on economical and metallurgical points affords the key to comparisons which, in his way of looking at it, present a most attractive problem.

Without attempting here to state more fully the points which are destined to draw back attention to some of the older and well prospected districts, it is evident that there are many amongst those already partially developed which are at present greatly undervalued. Figures in proof of this are constantly appearing, of a positive character, and that "cannot lie." California offers, in its plentiful auriferous pyrites in the Sierra Nevada and its wonderful ancient gravel channels, an amount of neglected wealth quite unlimited, that is destined yet to be taken out; and there are not only Mammoth District, and Humboldt, and Idaho, referred to specially in this issue, but Owens River, Arizona, Durango, and the slopes of the Sierra Madre; all fields of brilliant promise in mining, while they present to the adventurer at the same time many fine opportunities for agricultural and engineering enterprises.

To do justice to these older districts at present would be impossible. Let us have more facts and figures for comparison, and we shall not be long in discovering where are located our neglected mineral resources.

Interior of Vancouver Island.

A late number of Petermann's *Geographische Mittheilungen* contains a very complete and interesting description of the interior of Vancouver Island, acquainting us with hitherto unexplored regions, and furnishing us with a fine map of the island and coast fiords, by Robert Brown, the leader of various government exploring parties between 1862 and 1866. The situation and geography of Vancouver Island are very peculiar; but, owing to the exceedingly dense forests and treacherous, savage Indians, all but a fraction on the southeast corner has remained an unexplored wilderness. The beautiful scenery and grand forests of the coast and of the interior become monotonous, even tiresome, and generally remain unappreciated on account of the difficulty of scrambling over the fallen logs, and through bushes and ferns, at no little risk of loss of road, detention, and starvation, the scarcity of game in general being the remark of all explorers, to their sorrow. The whole of Vancouver Island is covered by erratic blocks of gray syenite, which were brought, Mr. Brown thinks, from Alaska, by the great Northern Drift. The principal buildings of Victoria are built of stray Russian American material, which thus escaped belonging to the United States. Nothing is said about the age of the sedimentary rocks. According to another author whom Mr. Brown does not allude to, they are cretaceous at the southern end of the island. Plutonic rocks constitute some of the ridges of the interior.

The following is the literature mentioned: Grant, Description of V. I., Jour. R. Geog. Soc., XXVII; Donglas' Report of Canoe Exp. along the East Coast, Ih., XXIV; Hazlitt's Brit. Col. and V. I.; Forbes, Prize Essay on V. I.; Beojamin, Reise in den Staaten, etc.; Mayne, Four Years in Brit. Col.; Macfie, Brit. Col. and V. I.; Pemberton, Facts and Figures relating to V. I. and Brit. Col.; Harvey, do.; the Parliamentary Blue Books; Vancouver Pilot U. S. Coast Survey. The works of Kinahan Cornwalis and Fred. Whymper may be added; and Vancouver's Voyages contain a good deal about the island, but unaccountably describing it as intolerably dreary. J. K. Lord's "Naturalist in British Columbia and Vancouver Island," is a new book.

Iron, coal, nickel, copper, graphite, silver and gold have been discovered in a great number of localities.

The Death of George Gordon, whose very practical suggestions on earthquake architecture when general attention was directed to that subject in October last, procured him the chairmanship of the Chamber of Commerce Committee on Earthquake Topics—took place on May 22d, and called forth numerous highly laudatory notices of his career as a keen, thinking, public-spirited citizen. He was a native of Scotland, a forty-niner, an ingenious mechanic, and especially well informed upon, as well as identified with, various manufacturing enterprises.

Minerals—Geology.

Eastern Nevada Fossils.—So prolific and well-preserved are the fossils in the limestones and sandstones of Eastern Nevada, that a study of species becomes attractive. Some bivalves, (according to the description), taken from the Knickerbocker mine on Treasure Hill, and not petrified, retain their natural blue and green tints as freshly as if they had been picked up but yesterday on the sea shore. Not only the older formations—the Silurian and probably the Carboniferous,—are easily studied, but there are newer sandstones as late as the Cretaceous or Tertiary, which remain to be more definitely determined,—as further noticed under the proceedings at the last meeting of the Academy of Sciences.

Building Stone.—Owing to the high price of lumber in the Great Basin, stone building material is attracting attention. On the Union Pacific Railroad, between Laramie and Ogden, we are informed that stone work is no longer put into the bridges, because no quarries have been discovered of a durable material. The marly sandstones, constituting the rock formation of that entire country, speedily crumble away; accounting for castles and bastiles that are seen wherever cappings of harder rock have protected a turret from denudation. Even the Weber Cañon red sandstones are poor building material. West of Salt Lake there are found durable silicious sandstones, which answer well for furnace material, having been used successfully for that purpose since 1867, in cupola smelting furnaces at Stockton, near the western shores of the lake. Stone quarrying is already quite a business at Treasure City, two quarries being adjacent to the business portion of the town; but we are not informed whether it is limestone or sandstone, or a mixture of either with aluminous material, which makes the best stone for building. A celebrated metallurgist of Treasure City is said to have built a furnace of chloride ore, and smelted it all down with great success. For houses or banks, infusibility is not so important a consideration, and chloride may be used when, as on Treasure Hill, it is to be had cheaper than anything else. The Bank of California building in San Francisco is a bluish sandstone from Angel Island, resembling that of the New York *Times* building, or Nova Scotian freestone. Though stone is deemed somewhat objectionable in an earthquake country, it is quite safe when laid with good mortar, and is in no danger of being superseded, for solid walls, by any artificial substance. Facility of working, variety and beauty of color, and the tendency in many cases to harden after centuries of exposure,—like the filagree work in the cathedrals of Strasbourg and Cologne, which was very soft and friable in the quarry render sandstones generally preferred for building.

An Underground River in Nevada.—Mr. A. Rock reports that there is in the old Mormon cave in Patterson District, Nevada, the channel of a former stream, evidenced by plentiful deposits of wash gravel and pebbles, the course of which has been explored for a mile and a half, the air having been found pure, and the passage free and continuing open. The cave runs lengthwise under an east and west spur of the principal argentiferous mountain of Patterson District. Streams containing pebbles run through Mammoth Cave, Kentucky, and through the St. Louis cave, both of which are in limestone. The larger underground rivers of Florida, running for ten or fifteen miles in openings dissolved out between the more durable limestone strata, afford better examples of the possibilities and wonders of invisible underground water courses.

Iron.—In the "Mining Summary" will be found some particulars concerning a large deposit of nearly pure red oxide of iron in Calaveras County, having a silicious and aluminous gangue, favorable for smelting. Bog iron is found in large deposits above Cisco, on the Central Pacific Railroad; *chromic* iron in Monterey and Santa Clara and Butte counties. *Hematite* (specular iron) in very many localities in California; in Humboldt Valley, Nevada; on Williams' Fork, Arizona; in a huge iron mountain at Durango; on the coast of Mexico, a little south of Acapulco, etc.; near the east fork of Walker River, Nevada, in veins twenty feet thick. *Limonite* at Burn's Creek, Mariposa County, in solid blocks two to four feet thick; at Oswego, Oregon, etc. *Magnetite* in large beds, massive, in Sierra County; at the Cañada de las Uvas Los Angeles County, in a vein three feet thick, in limestone; in small veins near Weaverville, in beds at Crystal Springs, Neilsburg and Long Valley, near the Central Pacific Railroad, and in crystals, in the syenitic granite of the Great Basin, and almost everywhere. *Titanic* iron in seams in trap near Diamond Springs, El Dorado County. *Spathic* iron (carbonato) in deposits twenty miles from Salt Lake City. We have mentioned only a few of the localities that might be named. Mr. Bennett, in Ross Browne's Report, p. 219, gives much additional information.

G. V. Phillips, of Nevada City, mentions in the *Union* a 10-foot vein, without stating the ore which is most important, located three miles above Nevada, and makes the following estimates concerning reduction:

The ore can be mined at an expense of $2 per ton; charcoal can be made and delivered at the mine for $8 per ton; a furnace capable of smelting five tons of metal will require the employment of ten persons; freight on pigs delivered in Grass Valley and Nevada, $3 per ton. The annual consumption of pig iron (for castings mainly) in these two towns (containing three foundries), is variously estimated at from 1,000 to 3,000 tons. The average cost of pig iron laid down here is $60 per ton.

Ten tons of ore will produce (for a day's work) five tons of metal worth in this market			$300.00
The rule is one and a half tons of charcoal for the ton of metal			
Five tons of metal will require 7½ tons of charcoal at	$8.00	$60.00	
Expense of mining ore, 10 tons at	2.00	20.00	
Ten smelters (per day)	4.00	40.00	
Freight to Grass Valley and Nevada, 5 tons of metal at	3.00	15.00	135.00
			$165.00

Then, taking the lowest estimate of the amount required to supply our local market per annum, viz.: 1,000 tons, at $33 per ton profit, and we have quite an inviting business for some one with a little capital to engage in.

Contributions for our Cabinet.

No. 402.—*Earthy carbonate of magnesia*, without grit, very white, and pure, found in nests and pockets in seams of steatite—from which it appears to have been derived by the action of carbonic acid waters—in the upper part of Napa County. It contains from 10 to 20 per cent. of lime, and other ingredients. As the mineral in this form is supposed to be more favorable for chemical manufacturers' uses than the hard crystallized magnesite, and as the deposits are extensive, requiring only the construction of a road up a narrow mountain ravine, the owners of the claim anticipate profits from shipping it to Philadelphia, or Liverpool, as ballast. Presented by H. G. Wetmore, Fairfield Solano County.

No. 403.—*Actinolite*, being a fragment of a large boulder. From the Diablo range east of San José,—with Nos. 404-5-6 following, all presented by W. F. Stewart, of San José.

No. 404.—Stratum of green earth, overlying limestone. It seems to be of chloritic material,—a decomposed or earthy mariposite.

No. 405.—Mariposite.

No. 406.—Clayey stratum or vein about five feet in thickness, containing very plentifully a dark coloring substance which has the appearance of graphite. It is possible that by concentration this might be found economically valuable.

No. 407.—Hematite, red tin, and opalline quartz; deposited over each other in the order named in grape clusters, showing beautifully the chemical order and manner of deposit, heretofore referred to in connection with Durango tin. Generally, when tin is not present, in the Durango ore channels, silica deposits itself, as is here shown, later than tin. Durango. J. H. C. Bennett.

No. 408.—*Argentiferous limonite*, or brown iron ore; a remarkable occurrence of silver, assaying up to $2,000 per ton and over, which is quite common, and has been extensively mined on the Whitcomb ledge, near Oreana, Humboldt County. The precious metal seems to be diffused in the iron in the form of chloride and bromo-chloride; hydrated peroxide of iron resembling red chalk constituting more than 50 per cent. of the specimen. Its brown color darkens on exposure to air and light, the pieces being always of a fresher and brighter color when they are taken from the mine. Our specimen is from the Grant mine, and contains also chloride of a greater purity intermixed, together with stains of malachite. Difficulty in amalgamating this argentiferous limonite caused the property to be held—as many other mines are yet held—far below the assay value, and to be left comparatively undeveloped from want of the proper metallurgical skill, or the necessary money-turning "trick." Presented by Guido Kustel.

No. 409.—*Chloride of silver* in lime and calcspar gangue, from the Juno ledge, Battle Mountain District, Nevada. The chloride is generally of a greenish tinge, in small streaks, and zones; considerable iron—also argentiferous limonite—is intermixed. As crushed, after sorting, the ore assays from $75 to $200, and $25 and upwards being gold. Some of the ores in the northern or limestone belt of the district, are identical mineralogically and in gangue, as well as in appearance, with the White Pine, or other lime chloride ores of Eastern Nevada. The Juno ledge is a new development, being situated on Moutrose Hill, and running parallel with the St. Helena and Moutrose ledges. Country rock, quartzite. Presented by J. H. Culver.

No. 410.—*Vein formation.* Two vein pieces from the bottom of the new 80-foot shaft of the Heslip mine, Jamestown, Tuolumne County, showing gold and pyrites thickly and evenly spangled through quartz. It is of interest as illustrative of gold vein geology. Bands or strata of a rich dark-colored, and a light and apparently nearly barren quartz, succeed each other, but while the latter are thin and contain occasional very rich spots of native gold, the former are massive and contain only iron sulphurets, showing, however, a very curious striation and cleavage, or tendency to stratification, at right angles to the two kinds of quartz planes. At a little distance the darker kind looks like a bleached chloritic slate, which has been fractured in white streaks across its grain, but on closer examination it is found to be all silica. These schistose bands appear to have been silicified from channels indicated by the light quartz. It seems that the schistose rock served as a reagent favorable for the deposition of sulphurets, while the purer silicic acid is more likely to contain its gold in free form.

No. 411.—*Fossils*, mollusks and corals, from White Pine District, near the Von Schmidt water reservoir, four miles from Hamilton will be noticed more fully hereafter, in connection with fossils from Eastern Nevada. Presented by G. A. Loyd.

Earthquake Pamphlet.—Thos. Rowlandson, F. G. S. L., and recently Secretary of the San Francisco Earthquake Committee, has issued a treatise in pamphlet form, evincing much research and valuable information, on Earthquake Dynamics; Earthquake Waves; Sound that attends Shocks; Palliatives, Suggestions and Conclusions.

We incline to the opinion that the work contains much valuable information, and is well worth the fifty cents for which it is forwarded, postage paid, by Dewey & Co., of the Mining and Scientific Press, San Francisco. *Stockton Independent, May 22.*

Continental Life Insurance Company, 203 Montgomery street, corner of Pine.

The Earth as Seen from the Moon.

Those who dwell upon the center of the lunar disk—if there are any inhabitants there—behold the earth, like a vast globe, directly over their heads, thirteen times larger than the moon appears to us, and fixed eternally in the starry sky. Those who live near what appears to us as the borders of the moon, see the earth proportionally removed from the center of their heavens until those upon the extreme border behold the vast globe apparently resting upon the tops of their lofty mountains. A little further on, and turning the edge of the disk, the earth is lost to their sight entirely. The earth presents to the moon all the phases of the moon to us—when it is new moon to us, it is full earth to them. It sheds upon the moon thirteen times as much light as that orb does upon us. By its daily revolution, every portion of the earth is gradually brought to the view of the lunarians once in each twenty-four hours; while in return, the moon to us presents only its constant half. The vast ocean expanse of the earth must give it a greenish tint; the land appearing of a dark brown. The light received is of an "ashy paleness," and not bright like the sun. Portions of the earth covered by clouds have a floculent look, which must give a constant variable appearance to the earth's disk.

South African Mines.—A luxurious correspondent of the *Alta* from D'Urban City Natal, in the South African gold regions, furnishes us with information how to reach that defunct El Dorado, estimating the cost as follows:

	1st class.	2d class.
Passage from San Francisco to New York	$1,000	$300
Expenses in New York	20	10
Passage to Liverpool	300	100
Passage to London, cab hire, etc	30	10
Expenses in London	100	25
Outfit of arms, ammunition, etc	300	100
Clothing, boots and shoes	200	100
Mining implements, cooking utensils	75	50
Wagon and tents	225	150
Books	25	10
Passage to Natal	1,000	350
Freight to Natal	100	50
Oxen, for twelve or six	250	or 125
Taxes, presents to natives, etc	100	25
Provisions for six months	100	75
Total	$3,825	$1,460

The mines on Tatin River are now called the "Southern Mines;" those 100 miles beyond are the "Northern Mines," and are held by a Kaffir chief. He says there are at present 280 men at work in the mines, but it is not positively known whether they are making it pay or not. There were seventeen vessels in port at D'Urban. By some of them there came 150 Australian gold diggers, who seem to be very much dissatisfied.

The Practical Painter.—We have received the first number of a periodical, which, as its name indicates, is devoted to the interests of the fraternity of painters. It is one of the hopeful signs of the times that there seems to be a growing inclination among the practical working men in all branches of industry, to establish and support periodical publications, which shall have for their object the elevation and improvement of the members of their respective professions, by disseminating among them useful information, and cheering them with words of encouragement. We are pleased to see that the practical painters are to have their organ, among others, and we trust that generous and appreciative body of working men will not be slow in extending a helping hand in aid of so praiseworthy an undertaking. The "Practical Painter" is published monthly for fifty cents per annum, at 37 Park Row, New York city, by Willis, McDonald & Co. The number before us is a small, but neatly printed folio, well filled with matter such as should be brought to the notice of every painter.

Rufus L. B. Clarke, recently appointed Examiner-in-Chief in the Patent Office, is a brother of "Grace Greenwood." He practiced law and editing, and is reputed to be a gentleman of ability.

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Golden State Iron Works,

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Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight: without excessive friction, and never gets slack or leaky.

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AMALGAMATOR AND SEPARATOR,

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WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz milling, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

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STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

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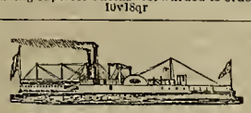

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Steam Engines of all Kinds,
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Machinery and Castings of all kinds, either of Iron or Brass.

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Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

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Fine or Tubular Boilers, with plain circular or spiral courses. Upright Fine or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, height of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

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Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care.

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

UNION IRON WORKS,

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WILLIAMS, ROOT & NEILSON,

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CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR,

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Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

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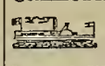

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Written for the Mining and Scientific Press.

Exploration vs. Honest Mining.

OUR FIELDS OF TANGIBLE BUT NEGLECTED RESOURCES.

EDITORS PRESS:—Nevada has been designated the "Silver State" of the United States of America, and without controversy, justly so. There can be no doubt of its abounding wealth—superabounding as regards the present day. It did not remain for the discovery of White Pine to give color and solidity to such an opinion, for such an opinion existed prior to the discovery of that famous district, and will not cease to be entertained when that shall have ceased to agitate from center to circumference a world of enthusiasts.

It would be a bootless undertaking at any time to attempt to stem the tide of excitement produced in these days by a gold or silver mania. Something gives rise to it; seemingly a fortuitous concourse of events. It does not seem to be the result of an elaborate scheme of any man or organization of men, yet there is the concurrence of a sufficient number to beget motion. The tide sets in and rolls on, increasing in volume and momentum until fanned by the breezes of popular enthusiam it becomes irresistible, and so it continues until checked by the demonstration, that the mountain in labor has produced only a mouse.

It is not my design to underrate White Pine, or any other district, but merely to say that the elevation of that or any other district to an altitude considerably above its merits, reacts prejudicially to the whole system of mining.

It is a question which has often suggested itself to my mind: Are not ores of the same value equally valuable in any other part of the State—all other things being equal—as they are there? and if not, why not? Mining on 'change and mining in the mines and of the mines, are not unfrequently productive of results diametrically opposed to each other.

I freely admit that the value of mines is in proportion to the chances of large realizations, but I contend that that fact applies more favorably, prospectively, to districts which are now neglected, than to those which constitute at present the popular class. It has been almost invariably found that where an extraordinarily rich deposit of ores occur, the chances of finding a second are somewhat remote, and that where large quantities, comparatively, of the chlorides of silver are found in disrupted rocks near the surface, their continuity in depth is always a matter of grave suspicion, until demonstrated to the contrary, which unfortunately is not very often the case.

It is unquestionably too premature, to elevate from mere profile, any one district of Eastern Nevada head and shoulders above the rest, to say nothing of the danger of its resultant consequences, which are almost certain to be prejudicial to mining generally.

There can be but little if any doubt that the things of to-day are no more than the airy precursors, the A B Cs, the ephemerals of what is to succeed them and constitute the sources of metallic wealth for a succession of ages. It is a trait seriously affecting the operations of the present mining generation, that the purely sensational—to the utter exclusion of the substantially indicated enterprises—monopolize attention; an *ignis fatuus* being more highly esteemed because of the suddenness of its emission and its brilliancy of light, than are stars of the first magnitude, which never fail to shed their mild and beneficent influences for all time.

The vanity of becoming rich at a bound, it would seem, has hurled reason from her throne, and laid an embargo on common sense. The nature and principles of mining are ignored, and the contemptible dogma is imperiously substituted, that ledges which do not crop richly to the surface and continue to yield in unbroken line ores of remunerative quality in depth, are of necessity, therefore, decidedly valueless. I need scarcely say that all ledges of this class throughout the extensive wilds of this State, will soon be invested; and that if all new districts yet to be organized are dealt with and dismissed in a similar summary

manner as those hitherto discovered, the present generation will, with bnt one or two exceptions at most—I refer tn the Comstock lode—have accomplished the extraordinary feat of exhausting tho entire metallic wealth of Nevada.

That we live in a fast age, I know; but I can never indorse a progress that is attained but at the expense of skipping ninety-nine hundredths of all legitimato work. If all the other States of the Union are manipulated as this is being done, we shall soon be reduced to the distress of Alexander, and weep that there is not another world to range over and pillage. More than 40,000 sqnare miles of this State havo been "done" in the past three years; and that achievement is only looked back npon as a contemptibly slnggish march. The present summer, wo are told, is going to exceed anything that has preceded it in the annals of prospecting.

Tho season affords an excellent opportunity to the shrewd capitalist for purchasing valuablo properties cheaply in some of the now neglected districts, many of which comprise mines as good as the best at White Pine—excepting only the Eberhardt.

The district from which I write—Mammoth—comprises miues which will favorably comparo with tho best at White Pine, with the singlo exceptinn noticed, some of them producing sulphides of silver tn within six feet of the surface, identical with the richest oros produced by the Eborhardt; giving by assay from $12,000 to $15,000 per ton. If such ores, in whatever quantity occurring in a finely-formed vein, associated with kindred ores in variable degrees of quality and all the concomitants usual to extensive deposits, are not sufficient to attract attention and command enterprise in mining in older districts than White Pine, the word "mining" may be conveniently expunged from our argentiferous nomenclature, and the word "hunt"—hunting for metals on the surface—substituted.

PRO AND CON.

Ellsworth, Nye Co., May 7, 1869.

THE PATENT OFFICE ON HEALTH.—Statistics have proven that more men become crazed in the Patent Office, at Washington than anywhere else in the Union, and we can quite understand such being the fact, for the mind gets distracted by tho multiplicity and intricacy of the models, and a constant intercourse with men who are all mad on their own particular point; for it is almost impossible to be a snccessful inventor without so concentrating all thought on one focus that there is a burning light there, and vacancy and darkness everywhere else; which gnes far to make the inventor the most disagreeable of society, even if he be the most useful of mankind.

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A GOOD INVESTMENT.

THE MOUNT MORIAH
Silver Mining Company,
OF ARGYLE MOUNTAIN,
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NEVADA.

Capital. - - - $300,000.

6,000 Shares, $50 Each.

FULL PAID AND NOT LIABLE TO ASSESSMENT.

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CARL PRECHT, LOUIS COHN,
W. S. TAYLOR.

This Company offer to the public One Thousand Shares of the Capital Stock for a Working Capital, at the subscription price of Five Dollars per share—FULL PAID, and NEVER liable to any assessment whatever. The mine is admirably located for working, being situate on Argyle Hill, opposite Treasure City. Shaft sunk 10 feet, showing a large body of chloride, which assays $700 per ton, and which will now mill $200. The capital raised to be used and expended on the mine. The standing and reputation of the Trustees is ample guaranty of responsibility, etc. Maps and samples of ore, and subscriptions at the office of the Company, Rooms No. 15 Stevenson House, corner California and Montgomery, and at 211 and 213 California street, near Battery street. 16v18tf

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SUPERIOR GOODS! REDUCED RATES!

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SUCCESSORS TO
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SAN FRANCISCO AND NEW YORK,

Announce tn the friends of the old firm, and the public at large, that their present business arrangements are such that they are enabled to offer tho best and most stylish goods on the Pacific Coast at a great reduction from former prices.

AT WHOLESALE.

The attention of tho merchants throughout tho Pacific Coast, is called to the fact that we are now prepared to fill their orders for superior goods in

Strictly Custom-Made Clothing,
Suits, Gloves, Hosiery, and
Furnishing Goods, Trunks,
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In lots to suit at regular wholesale rates.

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Made either in New York or San Francisco, under the pervision of the best cutters in America.

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Sole Proprietors—TAYLOR BROTHERS, London.

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[See following extract from the Globe of May 14, 1868.]
"Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adapting their perfect system of preparation to this finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.
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6v18-6m

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—BY—
WHEELER & RANDALL.
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This little work, of 130 pages, although partly devoted to a discussion of limited interest to general readers, contains instructions in the WORKING AND ASSAYING OF ORES, AND TABLES FOR REFERENCE, which renders it quite desirable and of frequent service.
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FOR THE WEEK ENDING MAY 18th.

COMBINED COMB AND SHEARS FOR HAIR-CUTTING.—Jos. H. Atkinson, San Francisco, Cal.—90,063.

I claim the clamping-device for adjustably securing a comb to a pair of scissors, consisting of the spring-clamps B B, D, screws A A, and nuts C C, arranged substantially as shown and described.

CLEANSING-LIQUID.—E. J. Balcear, Martinez, assignor to Samuel Pillsbury, San Francisco, Cal.—90,064.

I claim a washing or cleansing fluid, composed of the ingredients named, prepared and mixed in the manner and in about the proportions above specified.

This is the patent under which "Kelly's American Washing Fluid" is manufactured in this city. The inventor is a married lady, and this is the second inventiou upon which she has received U. S. letters patent.

PLOW-CLEVIS.—John Adolph Bilz, Pleasanton, Cal.—90,068.

I claim, 1. The vertical slotted bar E, secured to the ends of the two arms A and B of a clevis, substantially as and for the purpose described.

2. The sliding bar F, moving up and down through slots in said arms A and B, and held at the point desired by means of a set-screw *g*, substantially as and for the purpose described.

3. The shackle G, attached by a swivel-joint to the screw *e*, said screw being secured to the lower end of the sliding bar F, and moving up and down in the vertical slot *a*, substantially as and for the purpose described.

The above invention relates to a new and improved clevis for plowing, so constructed that the depth to which it is desired to run the plow can be regulated as desired, by simply raising and lowering a bar and confining it by means of a set-screw. It also cousists in attaching to this sliding bar a shackle, with a swivel joint, to which the double-tree is secured, and which turns so as to allow the double-tree to remain in its proper position in whatever manner the plow may be turned. For instance, when it is desirable to let the horses stand for a time, the plow is generally thrown over on its side, and when the ordinary clevis is used, this motion turns the double-trees, and causes the tugs to strike the horses' legs, frequently resulting in runaways, which cause much damage; while, when this clevis is used, and the plow thus thrown down, the shackle will turu aud allow the double-trees to remain iu their proper position.

PUMP.—William H. T. Clark, San Francisco, Cal.—90,080.

I claim, 1. The arrangement of the partition *g*, chamber E, valve-chambers C and D, and air-chamber F, within the part A, substantially as described.

2. In combination with the above-named parts, arranged as claimed, the valves *c* and *e*, provided with the raised seats *i*, and radiating guides *r*, substantially as specified.

3. The arrangement of the parts *h h* and *h' h'* in relation to the diaphragm *c*, and with reference to the cylinder B, whereby said cylinder may be attached to the part A, either in a vertical or horizontal position, substantially as set forth.

4. The compound packing-ring M, fastened to the interior flange *p*, together with the elongated plunger H, the whole constructed and arranged substantially as herein described.

This invention has for its object the providing of a double-acting pump that can be used either horizontally or perpendicularly as desired—that is, the cyliuder, in which the piston operates, is so constructed that it can be readily turned from a perpendicular to a horizontal position, or *vice versa*, as desired. The body of the pump is so arranged by means of chambers that the water will always staud at a certain hight in the pump. The general construction is such that any sand which may accumulate in the water chamber will not be drawu up through the valves; or if it should, the valves are so arranged ou raised seats that it canuot in auy manner iuterfere with the operation. The valves themselves arc also peculiar in their construction—the guides being so arrauged that it is impossible for the valves to get out of order or leak. The plunger moves in a peculiar packing, which is not affected by the cutting effect of the sand, and moreover may be easily renewed when desired. The interior of the pump is contiuually submerged in the water, and any accumulating sand may be easily cleared by removiug the plug. Mr. Clark has already introduced quite a number of ingenious and useful inventions.

MACHINE FOR STUFFING HORSE COLLARS.—George W. Hobart, Silvertou, Oregon. 90,170.

I claim, 1. The combination of the crank-wheel D, adjustable crank-pin *d2*, pitman E, sliding block, or cross-head, F, stuffing-rod G, feed-rack I, and hopper L, either or both, tube J, slide K, and adjustable collar-board M, with each other and with the frame B B, C1 C2 C3, substantially as herein shown and described, and for the purpose set forth.

2. Adjustably pivoting the collar-board M to the slide K by meaus of the slotted and recessed plate *k1*, substantially as herein shown and described, and for the purposes set forth.

3. The combination of the rack *k2*, gear-wheel N, shaft G, rack O, pawl U, crank P, pulley Q, rope or chain R, and weight T, with each other, and with the slide K, and beams or bars C1 C2 C3, substantially as herein shown and described, and for the purposes set forth.

GANG-PLOW.—J. W. Lewis, Oregon City, Oregou.—90,178.

I claim; 1. The frame A and draught-pole E, with the platform D for the driver's seat, and the seat F, in combination with the toggle H, lever I, and the rack Ix, all constructed and arranged substantially as and for the purpose specified.

2. The pivoted bar s, guides L' Lx, pin *d*, lever N, carrying the catch O *e*, the chain *ax*, aud pulley *f*, in combination with the axle L, substantially as described, and for the purpose specified.

ORE-CONCENTRATOR.—George W. Strong and Walter L. Strong, San Francisco, Cal.—90,205.

We claim, 1. The vibrating trough C, having the divergent sides E E and inclined bottom N, said sides gradually approaching each other toward the upper end of the trough, substantially as and for the purpose described.

2. A trough, having divergent sides and an inclined bottom, moving on a pivot or standard D, adjustable by means of the pin *a* at one end, and suspended by means of rods *e e*, at the opposite end, said trough having communicated to it a shaking or vibrating motion, substantially as and for the purpose above described.

This is a new device for washing ores for gold or concentrating sulphurets, and consists of an inclined trough, with sloping or divergent sides, narrowing towards the lower end, and leaving only a small opening, through which the water and surplus matter passes off. The inclination of the trough is readily adjustable to the character of the ores aud amount of water which is passing through. The lower end rests upon a firm support, while the upper is loosely suspended from couvenieut arms, so that a shaking motion may be readily imparted to it.

PIPE TONGS.—Bernard Riley, San Francisco, Cal.—90,307.

I claim a gas-pipe tongs, with the combined parts arranged and constructed in the manner substantially as herein described, and for the purposes as above set forth.

New Inventions.

CLEANSING PETROLEUM—OILED WOOL.—Some Petroleum is found 100 per cent. cheaper for oiling wool, in order to spin it, than lard oil; it has beeu used to some extent for that purpose, but much difficulty has been encountered in cleausing the spun product, aud in removing its yellowish color. Mr. L. Houigsberger, of this city, has shown us specimens of petroleum-oiled yarn, which have beeu cured by a very simple process invented by him, and at little cost, showing no traces of the smell or color of petroleum.

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Saeramento, Cal., May 20th, 1869.

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New Mining Advertisements.

Bowden Silver Mining Company. Location of works: White Pine, White Pine County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fourteenth day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Charles B Young....	Unissued	1000	$50 00

And in accordance with law, and an order of the Board of Trustees, made on the fourteenth day of April, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No 11 Hayward's Building, 419 California street, San Francisco, on Monday, the fourteenth day of June, 1869, at the hour of 1 o'clock P. M. of said day, to pay said delinqnent assessment thereon, together with costs of advertising and expenses of sale.

M. S. MARTIN, Secretary.

Office, No. 11 Hayward's Building, 419 California street, San Francisco. my29

Siempre Viva Silver Mining Company, District of Zarigossa, Sinaloa, Mexico.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fifteenth day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follws:

Names.	No. Certificate.	No. Shares.	Amount.
Bacon, J S	131	25	$25 00
Lohse E S	237	2	2 00
Lohse, J F	185	10	10 00
Lohse, J F	194	4	4 00
Lohse J F	242	10	10 00
Simon, B	98	10	10 00
Meetz, Theo	99	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of April, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, at their salesroom, 310 Montgomery street, San Francisco, on Monday, the fourteenth day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOUSE, Secretary.

Office, 318 California street, San Francisco. my29

Mining Notices--Continued.

Dios Padre Gold and Silver Mining Company, Alamos, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-ninth day of April, 1869, an assessment of three dollars ($3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. C. McComb, corner of Broadway and Battery streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of May, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. C. McCOMB, Secretary.

Office, cor. Broadway and Battery streets. my1

Douglas Silver Mining Company.—White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth (6th) day of May, 1869, an assessment of twelve and one-half cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the eighth (8th) day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. my8

Daniel Webster Mining Company.—Location of Works: White Pine County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Black, J J	27	50	$5 00
Black, J J	28	40	4 00
Black, J J	29	50	5 00
Black, J J	30	500	50 00
Brewer, Wm	53	10	1 00
Brewer, Wm	54	10	1 00
Brewer, Wm	55	5	50
Coupland, W F	71	100	10 00
De Ro, Chas, Jr	95	50	5 00
Evatt, W J	26	10	1 00
Farrington, Chas L	157	100	10 00
Hentz, A H	105	10	1 00
Hentz, A H	106	10	1 00
Hentz, A H	107	5	50
Jackson, Andrew	31	13	1 30
Jackson, Andrew	33	25	2 50
Jackson, Andrew	34	25	2 50
Jackson, Andrew	35	25	2 50
Jackson, Andrew	36	13	1 30
Jackson, Andrew	37	25	2 50
Jackson, Andrew	39	400	40 00
Jackson, Andrew	40	150	15 00
Jackson, Andrew	41	100	10 00
Jackson, Andrew	43	150	15 00
Jackson, Andrew	68	10	1 00
Jackson, Andrew	109	10	1 00
Jackson, Andrew	10	12	1 20
Jackson, Andrew	111	17	1 70
Proeschold, Chas	78	50	5 00
Strahle, Henry W	72	50	5 00
Strahle, Henry W	73	100	10 00
Strahle, Henry W	74	100	10 00
Strahle, Henry W	75	100	10 00
Strahle, Henry W	76	100	10 00
Stetson, Geo D	61	25	2 50
Stetson, Geo D	62	25	2 50
Stetson, Geo D	63	25	2 50
Spelman, John	77	50	5 00
Sebord, L O	86	25	2 50
Taylor, Holmes	60	50	5 00
Taylor, Holmes	65	100	10 00
Thompson, Ira D	100	500	50 00
Thompson, Ira D	101	25	2 50
Thompson, Ira D	102	25	2 50
Thompson, Ira D	103	25	2 50
Thompson, Ira D	104	300	30 00
Wigmore, James	50	10	1 00
Wigmore, James	51	10	1 00
Wigmore, James	52	5	50

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of April, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 418 California street, San Francisco, on the thirty-first day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. A UHRIG, Secretary.

Office, No 418 California street, San Francisco. my15

French Silver Mining Company.—Location of Works: White Pine District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of May, 1869, an assessment of five cents (5c) per share was levied upon each and every share of the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh day of June, 1869, shall be deemed delinquent and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. my15

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of May 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, (up stairs) Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty sixth day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fourteenth day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. my22

Marlborough Silver Mining Company.—Location of Works: White Pine District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of May, 1869, an assessment of five cents (5c) per share was levied upon each and every share of the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh (7th) day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. my15

Nuestra Senora de Guadelupe Silver Mining Company.—Location of Works: Tayoltita, San Dimas District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of May, 1869, an assessment of two dollars per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, No. 210 Post street, or to the Treasurer, A. Himmelmann, No. 647 Washington street, San Francisco, **to settle the indebtedness of the said Company.**

Any stock upon which said assessment shall remain unpaid on the sixteenth day of June, 1869, shall be deemed delinquent, when **the payment will be enforced by law.** By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.

Office, No. 210 Post street, San Francisco, Cal. my15

FOOT-HILL SLATE QUARRYING.—Moore & Co. are employing forty men in their slate quarries near Copperopolis, and have been sending some very fine material to this city. If good slate is worth anything in the market, they seem to have the material.

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From developments already made, the Trustees feel justified in saying to their friends that this is one of the best opportunities ever offered for investment in this State.

For the purpose of further developing the mine, the Company has set aside a limited amount of stock, to be sold as a working capital, of which they now offer 1000 shares, at the nominal price of $2 50 per share, unassessable—the entire proceeds of which will be devoted to developing the mine.

The books of the Company are now open for subscription at the office of the Company, No. 432 Montgomery street, Room No. 1, first floor. By order.

JAS. H. CUTTER, Prestdent.
G. W. STEWART, Secretary.
15v18-2m

CALIFORNIA AVENUE
Homestead Association.

Lots from 26 to 30 Feet Frontage by 120 Feet in Depth, in Blocks 88, 89, 90 and 91, Fronting on California street, between Seventeenth and Twenty-first Avenue.

Shares, $330 Gold Coin,

Payable in Monthly Instalments of $10, without Interest---First Payment, $20.

This Association is organized to purchase a tract of land comprised in the above-mentioned blocks. The location of this property being on THE LINE OF ONE OF THE MAIN AVENUES leading westerly from the business center of the city, and now easily accessible, makes it unsurpassed in present and prospective value by any property in the suburbs of the city. California avenue will at an early day be graded its entire length, and the railroad facilities which will be furnished during the next year will amply accommodate all shareholders who may desire to improve their lots.

There is NO DRIFT SAND on or near this property, and NO HIGH HILLS. The lots are large, and ALL DESIRABLE. TITLE PERFECT.

Its fine location, nearness to the business portions of the city, and the low price at which it is offered, combine to recommend this property to all who desire a profitable investment on easy terms.

Books of subscription open at the office of H. B. CONGDON, No. 619 Montgomery street. 21v18-2t

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

UNITED STATES AND FOREIGN
PATENT AGENCY.
DEWEY & CO.,
PUBLISHERS MINING AND SCIENTIFIC PRESS.

Pacific Protective Association of California.
INCORPORATED OCTOBER, 1868.

PROSPECTUS.

OBJECT.—The object of this Association is to secure a cash payment, within sixty days after the death of a subscriber, to his or her heirs or assigns of as many dollars as there are individuals of the class to which said deceased subscriber belonged.

MEMBERSHIP.—The subscription fees are Ten Dollars at joining, and One Dollar on the death of each subscriber. The One Dollar from each subscriber is paid to the heirs or assigns of the deceased.

THE FUNDS.—The By-Laws of the Association require that a portion of the money received as subscription fees shall be a Sinking Fund to meet assessments falling due by the delinquencies of subscribers. The balance of the money received to be used for the payment of the expenses incurred by the Association.

MEMBERS.—A subscriber failing to pay his or her assessment of one dollar within Thirty days from receipt of notice forfeits his or her Certificate, and all claims upon the Association, unless good cause is shown for further delay. A subscriber can forward money in advance, which amount will be credited on future assessments. The subscribers are divided into classes including males and females. Each class is limited to 5,000 subscribers. As classes are filled, new ones will be formed. No person is so poor that he cannot pay Ten Dollars at joining and One Dollar occasionally, thus securing $5,000 to his or her heirs or assigns.

ADVANTAGES.—The advantages of this Association are, that no *money panic* can affect it. Its benefits are easily obtainable by all, and every subscriber added to the Association enhances the interest and protection of all; the amount paid being so small, and only at long intervals, that any person can secure for his family a competency upon his death.

CLASSES.—In Class A, all persons between the ages of 15 and 40 years; in Class B, all persons between the ages of 40 and 60 years.

Any one that has not stated his or her age correctly, will forfeit all money paid and his or her Certificate.

One class cannot be assessed if one of another class dies. Classes have no connection with each other.

HOW TO BECOME A MEMBER.—A person desirous of becoming a subscriber must fill out an application, and forward with it Ten Dollars by Check, Draft, or by Express, in gold or silver coin. Persons can pay agents, when regularly appointed and authorized to receive money. Each subscriber should interest himself in obtaining new members, by so doing all are benefited

BOARD OF DIRECTORS.—Benjamin H. Freeman, George H. Russell, Samuel A. Raymond, James A. Pritchard, W. LeRoy.

OFFICERS.—Benjamin H. Freeman, President; George H. Russell, Vice President; John H. Warren, Secretary; James A. Pritchard, Treasurer.

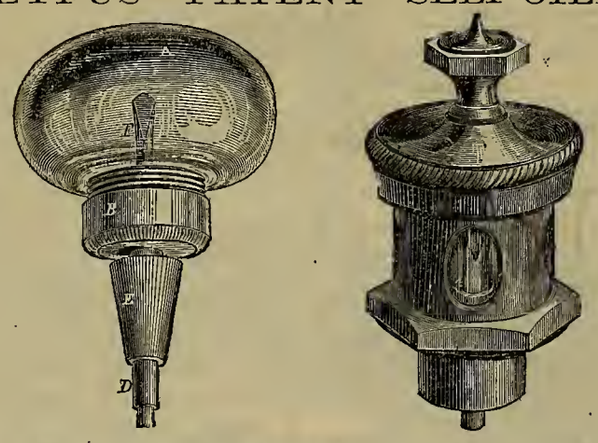
REFERENCES.—Hon. Henry Dutton, President of Farmers' and Mechanics' Bank; Hon. Samuel Cowles, late Judge County Court, San Francisco; Hon. A. J. Gunnison, Attorney at Law, San Francisco; H. J. Booth, Esq., Union Iron Works, San Francisco; Henry F. Williams, Esq., Real Estate, San Francisco; John O. Hanscom, Esq., Ætna Iron Works, San Francisco; John H. O'Brien, Esq., of O'Brien, Bush & Co., San Francisco; Hon. J. P. Jones, Gold Hill, Nevada.

All communications should be addressed to the Secretary of the
PACIFIC PROTECTIVE ASSOCIATION,
S. E. COR. OF MONTGOMERY AND SACRAMENTO STREETS, (Over Donohoe & Kelly's Bank,) SAN FRANCISCO
[10v18 3mos.]

Rails, Newel Posts,
AND BALUSTERS,
Constantly on hand for sale, and shipped, together with all kinds of
STAIR WORK,
To any part of the coast. Practical workmen sent, when desired, to put up the same.
Work Warranted to Fit
by simply sending a correct ground plan of stairs, together with hight of story.
Wood-Turning and Scroll Sawing of all kinds promptly executed.
☞ Spanish Cedar, Walnut and California Laurel always on hand for sale.

Langland & Cameron,
STAIR BUILDERS,
309 Market street,
And 485 and 487 Brannan street,
SAN FRANCISCO.
16v16-1y

THE STANDARD OF AMERICA.
DREYFUS' PATENT SELF-OILER.



For Locomotives, Marine and Stationary Engines, Fans, Pickers, Looms, Carding and Spinning Frames, Lathes, Saw Frames, Shafting, and Machinery of every description.

A Saving of from 75 to 95 per cent. Guaranteed.

They are composed of a Transparent Glass Cup, mounted in Britannia and Brass, provided with a hollow tube, inside of which is placed a loose-acting solid wire, which acts as a Feeder and Regulator. The wire rests constantly upon the journal, thereby acting with the bearing in its motion. The wire is so regulated inside the tube as to feed according to the demand only. There is no flow of oil whatever while the machinery is not in motion. They are as reliable in winter as in summer, for the reason that the friction produced by the action of the bearing on the wire causes the wire to heat, thereby causing the oil to become limpid. Being perfectly air-tight vessels, the oil will never gum in them, as this has been proven by two years' constant use. They are constructed in a very neat and substantial manner. We spare no pains in making them as perfect as it is possible for them to be made, and GUARANTEE them to give pe fect and entire satisfaction.

DIRECTIONS:

Fill the cup full of oil, then screw the cap down air-tight. Place the tube in the oil-hole in an upright position, or upon an angle of 45 degrees. Permit the rod to have a perfectly free action. If you desire to have the oil flow faster, reduce the wire.

REFERENCES:

For the convenience of persons desiring references, we annex the names of a few Manufacturers and Railroad Companies, who are using the Dreyfus Patent Oiler in different parts of the country: San Francisco—Mission Woolen Mills; Pioneer Woolen Mills; Pacific Woolen Mills; Golden State Foundry; Ætna Foundry; Fulton Foundry; Empire Steam Mills; San Francisco Gas Co.; Mechanics' Mills; Bacon & Co., Printers; Bosqui & Co., Printers; B. F. Sterrett, Printer. Sacramento—Union Iron Works. Stockton—Globe Iron Works.

LEVISON BROTHERS,
Sole Agents for the Pacific Coast, 629 Washington st., SAN FRANCISCO.

WILKIE DARLING, Manager,
(To whom all Communications must be addressed,)
629 Washington street, San Francisco.

Send for Circular.
12v18 2tm2m

A NEW
Gold Metal.

THE GOLD METAL WATCHES

Now being introduced by

C. E. COLLINS & CO.,

No. 629 Washington street,

SAN FRANCISCO,

Surpass anything yet made in the way of an Imitation Gold Watch. They wear well, and keep good time.

The Ladies' Watches cost $8 and $10 each.
The Gentlemen's cost $15 and $20 each.
Chains, from $2 to $6 each.

RECOMMENDATIONS:

SAN FRANCISCO, May 12, 1869.

This to certify, that I have carried one of the small size Gold Metal Watches which I got of C. E. Collins & Co., and I find that it runs as well, and keeps as good time, as any Watch I ever carried, and I can therefore recommend them. I am engaged on the Sacramento steamer "Chrysopolis." C. A. COLBY.

I am an engineer on the San Jose Railroad. I have been carrying one of C. E. Collins & Co's Watches for about one year, and I can safely say it is the *very best* watch for time that I have ever seen. GEO. CORNWALL,
Engineer on the San Jose Railroad.

MESSRS. C. E. COLLINS & CO:—Having heard your watches spoken of in the highest manner, I have resolved to order one for myself. You may send me one of the Lady's $10 Watches, without the chain. Send it as soon as possible, as I am very much in need of a time-piece.
R. B. PATTEN,
Toano, C. P. R. R.

The Public are cautioned against buying their watches at high prices, as many of them are sold for genuine *Gold Watches*, at from $100 to $150 each.

For List of Prices and Description of Goods send directly to us. Can be sent by Express, to be paid for on delivery.

C. E COLLINS & CO.,
No 629 Washington street, San Francisco.

P. S.—Where six Watches of the above are ordered at one time, we will send one extra, free of all charge.

We also deal in the finest Gold and Silver Watches, Watch Materials, etc. Send for circulars or prices.

RANSOME'S PATENT
Diamond Grit Grindstones,

Warranted of Uniform Texture,

TWICE AS STRONG AND WILL CUT AT LEAST TEN TIMES AS FAST AS THE BEST NATURAL STONES.

We manufacture the following qualities, viz:
"Hard," for Machinists, etc.
"Medium," for General Use.
"Soft," for Wood Workers, Etc.,
Diameters, 4 to 70 inches; thickness, ¼ inch to 12 inches; and any fineness required.

Solid Emery Wheels and Sharpening Stones,
Of all forms and materials.

These Stones are fast superseding the natural ones in England, the tests made there showing them to cut about fifty (50) times as fast as the Newcastle, and entirely free from flaws, and hard and soft spots.

☞ Grindstones, with Frames, Iron Troughs, Shafts and Treadles, ready to set up in working order, for sale at wholesale or retail.

PACIFIC STONE COMPANY,
E. T. STEEN, Sup't.,
20v18tf Cor. Turk and Larkin sts., San Francisco.

International Hotel,
JACKSON STREET
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Parsons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from $1 50 to $2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

☞ Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYOANT, Proprietor.

MANUFACTURING
Room to Let.

We have a well lighted room, 22 by 36 feet, in second story at 414 Clay street, near Sansome, which we will rent very low, suitable for printing or manufacturing purposes.
DEWEY & CO.,
Publishers Mining and Scientific Press, 414 Clay st.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into he pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlors made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

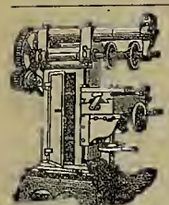
ELLERY'S PATENT
India Rubber Cement and Paint
—FOR—
TIN, IRON AND METALLIC ROOFS,
Iron, Brick and Wooden Buildings,
SHIPS, STEAMBOATS, STAGES, CARS,
AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

GEO. T. BROMLEY, Agent,
Battery street, corner Jackson,
24v17-3m San Francisco.



Pipe Vise, with or without Extra Jaw.

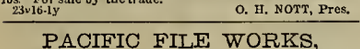
Standard Milling Machine.

UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y O. H. NOTT, Pres.

PACIFIC FILE WORKS,
No. 53 Beale Street, bet. Market and Mission,
SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the Sixth Fair, 1867.

2v17-3m **T. G. DURNING & CO**

Removal.

NELSON & DOBLE,
AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,
Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of
Mill Picks, Sledges, Hammers, Picks,
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.
Have removed to **13 and 15 Fremont street,** near Market, San Francisco.
10v14qr

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,
8v13-1y Stove Store, No. 1 Clay street, below Davis.

A NEW SLUICE
For Concentrating Gold, Amalgam, Sulphurets or Black Sand, in Quartz Mills,
OR PLACER MINES.

It is made without iron work, is cheap, durable, and effective; can be made by any good mining carpenter at the mine or mill, of sizes to separate the Sulphurets from one to fifty tons of sand per hour. There is no expense for motive power, or to handle the sand, if it can be run from the mine or mill directly into the receiving sizing boxes by means of water. It is continual, self-discharging, and can be used for concentrating fine gold and black sand, on the river bank or ocean beach. They may be seen at work in the American Company's Mine at North San Juan.

For information how to construct, and the cost, address
ORLANDO JENNINGS,
17v18 North San Juan, Cal.

BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's tariff on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

CALIFORNIA TOOL WORKS,
Blacksmith and Machine Shop,
143 Beale St., bet. Mission and Howard,
SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted.

21v17-6y **J. WEICHHART, Proprietor.**

Blake's Patent.

THE BEST PUMP for Boiler Feeders, Breweries, Sugar Houses, Tanneries, Mining and Fire purposes, etc., is Blake's

Patent Steam PUMP

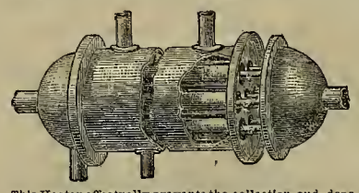
It is SIMPLE, COMPACT and POWERFUL, needs no expert to run it, and will start at any point. Is warranted POSITIVE under all circumstances. Send for a circular. W. O. M. BERRY & CO., 114 California St., San Francisco, Cal.

GLASGOW
Iron and Metal Importing Company
Nos. 25 and 27 Fremont street,
SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bandle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manager.

CROSS' COMBINED
Heater & Sediment Collector



This Heater effectually prevents the collection and deposition of sediment in the boiler from impure water. From April 1, 1869, the Royalty on this Heater has been

REDUCED 45 PER CENT.,

Which enables the Vulcan Iron Works, McAfee, Spiers & Co., Risdon Iron Works, of San Francisco, Keep & Barlow, of Stockton, and Williams & Co., of Sacramento, the parties having the right to build them, to furnish these Heaters at greatly reduced rates. Send for Circulars to

WM. B. CROSS,
16v18-3m Patentee, Sacramento, Cal.

Rock Drilling Machine.
Patent for Sale.

The Patent of George C. Phillips, issued Dec. 1, 1868, for a Steam or Compressed Air Rock Drilling Machine is now offered for sale on most reasonable terms. An illustration and full description of this Machine can be seen in the Mining and Scientific Press of March 27, 1869. Weight of Machine for ordinary tunnel work, 75 lbs. It is adjustable so as to drill in any direction; will make from 300 to 500 strokes per minute. One machine will do the work of twenty men.

The inventor guarantees to satisfy any party who will interest themselves in the matter, of the entire practicability of his invention. Address, by express letter,

GEORGE C. PHILLIPS,
19v18-1m Shermantown, Nevada.

FAIRBANK'S PATENT

PLATFORM SCALES!

Also, large Scales for weighing loaded wagons of Ore, Hay, etc., from 6,000 to 40,000 pounds capacity. Manufacturer's Branch House,

FAIRBANKS & HUTCHINSON,
120 California street, San Francisco.
Agents for Baldwin's Improved Money Drawers.
☞ Send for a Catalogue. 18v1seow6m

Agents Wanted---$10 a Day.
TWO $10 MAPS FOR $4.
LLOYD'S
PATENT REVOLVING DOUBLE MAPS

Two Continents, America and Europe, and America with the United States portion on an immense Scale.
Colored—In 4,630 Counties.

These great Maps, now just completed, 54x62 inches large, show every place of importance, all Railroads to date, and the latest alterations in the various European States. These Maps are needed in every school and family in the land—they occupy the space of one Map, and by means of the Reverser, either side can be thrown front, and any part brought level to the eye. County Rights and large discount given to good agents.

Apply for Circulars, Terms, and send money for and see Sample Maps first, if not sold taken back on demand.

J. T. LLOYD,
19v18-1m 23 Cortlandt street, New York.

BY MAIL.—The *Mining and Scientific Press* will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of the old and new location, and the paper will be sent accordingly.

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BARTLING & KIMBALL,
BOOKBINDERS,
Paper Rulers and Blank Book Manufacturers.
505 Clay street, (southwest cor. Sansome),
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JOHN DANIEL,
(SUCCESSOR TO O. OORI)
MARBLE WORKS,
No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plambers' Slabs, Etc., On hand and Manufactured to order.

☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,
(Over W. T. Garratt's Brass Foundry,
S. E. Corner of Mission and Fremont sts.,
6v14tf SAN FRANCISCO

J. F. PAGES,
SEAL ENGRAVER,
AND LETTER CUTTER,
Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.
6v16

DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,
Manufacturers of all kinds of
Desks and Office Furniture,
717 Market street, near Third.

Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.
18v17qr

Agents Wanted!
For the "American Year Book and National Register," for 1869.

Horace Greeley's Autobiography, and other new and popular works. Send for descriptive circulars.

F. DEWING & CO,
1v18 3m 418 Montgomery street, San Francisco.

SAN FRANCISCO
Pioneer Screen Works,
JOHN W. QUICK, Manufacturer,
Removed to A. Pritzel's Iron Works, 203 Fremont street, near Howard, San Francisco.

Screen Punching in all its branches at rates reduced from 25 to 40 per cent. less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.

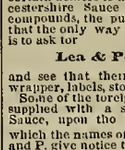
N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

Pacific Chemical Works.
SULPHURIC ETHER.
SPIRITS OF NITRE,
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.

FALKENAU & HANKS,
Office and Laboratory, Sixteenth street, between Folsom and Harrison.

LOUIS FALKENAU, State Assayer.
☞ Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

LEA & PERRINS'
CELEBRATED
WORCESTERSHIRE SAUCE



Declared by connoisseurs to be the only
GOOD SAUCE.

The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce" to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for

Lea & Perrins' Sauce,

and see that their names are upon the wrapper, labels, stopper, and bottle.

Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L and P. give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.

Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.

Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CROSS & CO. San Francisco. 3v18-6m

Caution against Fraud.

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. BUFFINGTON,
Room 37 New Merchants' Exchange, California street, San Francisco 17v15-tf

Engineering.

THE TELEGRAPH is the index of progress, in our day. It was a grand triumph, when, by the success of the Atlantic cable we first brought under our sway the dominions of Neptune. The North Pole, and Behring's Straits, it is true, failed to succumb to the W. U. Telegraph Line; but Alaska did. The Pacific Railroad followed close after the first Pacific Telegraph. A Washington special says a company has just been organized to build a line from St. Louis through Texas to the Pacific Coast. We learn that the Denver and Santa Fe line, (of some 500 miles) actually pays. The Southern Pacific Railroad, if not a North and South railroad, will be sure to follow.

A dispatch of May 7th states that a Pennsylvania company, with ex-Governor Curtin as President, and A. K. McClure, of Chambersburg, as solicitor, has organized for the construction of a line of telegraph in China. The proposed line is to run from Shanghae to Canton, that is to say, from the estuary of the great Yang Tze River, latitude 31° north, along the coast southward, trending east to the mouth of the Si or Canton River, latitude 23½°. The whole distance is very nearly 1,000 miles, and its route is through the three most wealthy and populous provinces of the empire—Cheh Kiang, Fuh Kien, and Kwang Tung. Already 500 miles of wire are on board ship; and by July 4th, 1870, the Chinese Government will control a live telegraph.

How long will it be before the Russian-Amoor, or Russo-Chinese telegraph line, will be followed up by a Russo-Chinese Railroad, built by American engineers? Not another ten years perhaps.

DREDGING.—At the last meeting of the N. Y. Soc. of Pract. Engineering, Prof. Johnson, of Saco, Maine, exhibited a machine formed something like a harge or boat, and calculated to hold a large amount of sand or mud. At each end is an air chamber, by means of which the boat is supported when full of mud and water, taken from the bottom of the river. At the bottom of the machine is a valve so constructed as to be opened and closed by an operating rod at the top. The boat also contains a chamber for the reception of sand and mud, and a reservoir communicating with the same to be used as a well. From the sand compartment or chamber extends a tube to the bottom of the river, by which the sand and mud is drawn up to the boat. The well is gradually exhausted of water by means of pumps, the top of the boat being covered tightly, and the mud and sand are gradually drawn up until the boat is filled. The use of the valve is for sinking and raising the boat.

ARTESIAN WELL BORING, for irrigation in the southern counties, seems to be found practically and economically successful only to a very limited degree. The expense is great, and the success not always certain—the geological conditions being either little understood, or not apparent to the best judges. Reservoirs are resorted to, with more definite prospects as to the results to be attained. In suitable localities, wells, however, can be bored to advantage. A. A. Boyle, Esq., has bored a well upon his land on the east side of Los Angeles River, seventy-five feet deep, which furnishes twenty-three feet of good water. The well is cased with six inch iron pipe, and proves that an abundance of water can be had upon certain lands by boring a short distance.

BRIDGE BUILDING.—The season's work, under this head, continues. A fine suspension bridge has been built over the Humboldt River, by H. R. Leonard, at Hot Springs, near Elko, on the White Pine road. The bridge is 248 feet long, 16 feet wide, consumed 80,000 feet of lumber, and was built in ten days at a cost of $12,000.

* * Another bridge has been built at Elko, to connect the Gibson road with the town. * * Mr. D. B. Scott, surveyor and civil engineer, has just concluded a survey for a wire bridge across the Yuba at Park's Bar—a private undertaking of Mr. John Rule's.

THE SUEZ CANAL cannot be opened for large vessels, before October or November, since, according to calculations of the engineers, it will take at least five months to fill up the dry depression called the "Bitter Lakes," for a distance of twenty-five miles, to the sea level. A sluice has been cut to admit the waters of the Mediterranean, but much filling in is required.

LOCKS AT THE MOUTH OF TUALATIN RIVER, OREGON.—It is stated on good authority that the project of constructing locks at the mouth of the Tualatin River so as to enable boats to enter that stream from the Willamette, together with the work of erecting a large mill at that place to enable the farmers of Washington County to convert their wheat into flour and get into market at reduced cost, is to go forward this summer in good earnest. It is estimated that $30,000 will suffice for constructing the locks, and that the whole work can be completed in the best style for $100,000. The names of parties are mentioned in connection with it whose well-known enterprise gives assurance that it will be carried through.—*Oregonian.*

WILDS OF THE AMAZON.—A German traveller, Gustav Wallis, who has not been heard of for fourteen years, has just made his appearance in Berlin. During all that time he has been quietly exploring the sources of the Amazon. An affection of the eyes drove him home at last, and he is now in charge of the great oculist, Dr. V. Graefe, who prohibits his reading or writing. The result of his explorations cannot therefore be given to the world, for some time to come.

PRESSURE OF WIND.—The greatest pressure of wind ever registered was at the Glasgow Observatory—fifty-five pounds to the foot. It is estimated that in a hurricane it may reach eighty pounds. The maximum force which it is necessary to reckon upon in the construction of roofs is set down at forty pounds.

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(Successor to G. W. Bell.)
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23v16-qr10pnr

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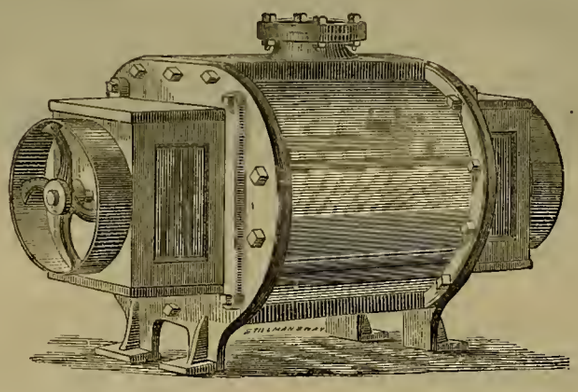
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



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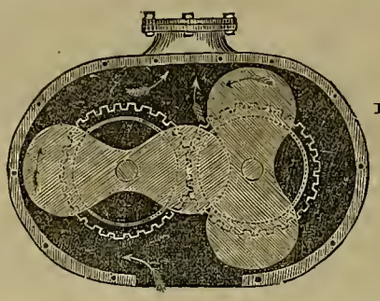

REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP & BARGION,
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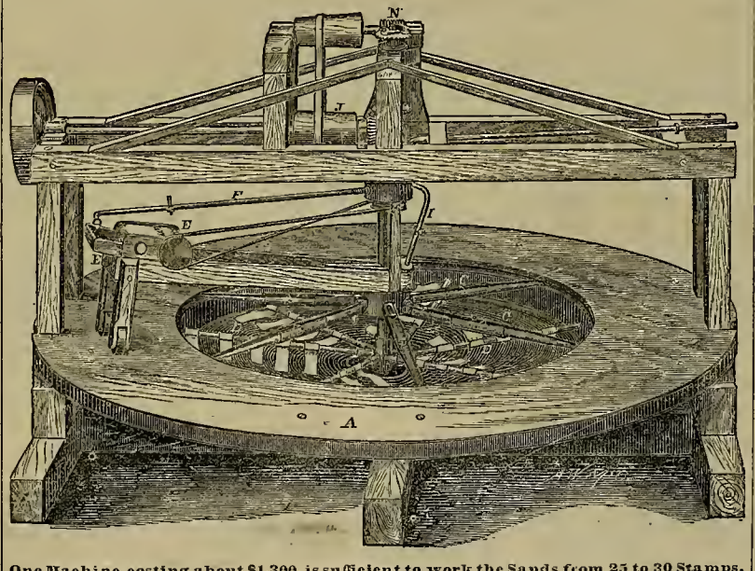
PAINE & STEPHENS'
IMPROVED CONCENTRATOR,
For Saving Gold and Silver Sulphurets.



One Machine, costing about $1,300, is sufficient to work the Sands from 25 to 30 Stamps,

Less power being required than for any other Machine. The attention of quartz millmen throughout the State is directed to the subjoined certificates, and if they desire they can visit the Amador Mining Co's mill, near Sutter Creek, the Eureka Co's mill at Grass Valley, or the Banner Co's mill near Nevada, and see for themselves.

CERTIFICATES:

GRASS VALLEY, Jan. 4th, 1869.—This is to certify, that we have used the Paine, Stephens & Harry Concentrators for over twelve months. They have given us entire satisfaction, and are the best we ever used. WILLIAM WATT, Supt. Eureka Mine.

This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.
WM. L. TISDALE, Supt. Star Spangled Banner Mine.

NEVADA CITY, Oct. 26, 1868.

Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE, at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.

13v1eoow

Metallurgy.

MOSHEIMER'S
PIONEER MINING SCHOOL,
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Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of

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That I am prepared to teach all the above branches in less time than in any European School.

I also undertake to assay and work any kind of ore, or mineral substances.

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PROF. HENRY WURTZ,
Formerly Chemical Examiner in the U. S. Patent Office may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞Written communications preferred.

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PROFESSOR WURTZ,
Who is the Inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of
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All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

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Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms.
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REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

THE VALLEJO WEEKLY CHRONICLE, made up from the best matter of the daily, appears with a very enterprisingly-looking engraved head, which is suggestive of the future of the City of the Straits. Prosperity and Vallejo—including its *Chronicle*,—appear to have formed a "ring."

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

PHOTOGRAPHY.—FOR CABINET PHOTOGRAPHS, or Enameled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
10v18 6m R. F. HOWLAND.

PAIN KILLER cures Sore Throat.
Favorite Medicine with all classes,
IF you have Palater's Colic, Is Davis' Pain Killer.
NO Medicine is so popular Use the Pain Killer.
As the Pain Killer.
KEEP the Pain Killer always on hand.
IF you have a Cough or Cold, Use the Pain Killer.
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LET every body use the Pain Killer For Sprains and Bruises.
EVERY sailor should carry a bottle of Pain Killer with him.
REMEMBER, the Pain Killer is for both Internal and External use.
The Pain Killer is sold by all Druggists and dealers in Family Medicines.
REDINGTON & CO., and HOSTETTER & SMITH, San Francisco, Cal., General Wholesale Agents. 1uylm

DR. HALL has just returned from Europe after an absence of one year, during which time he has visited England, Ireland, France and Germany, and has held consultations with the following eminent physicians: Drs. Curling, Druit, Lee, Parker, Acton, Aitken, Churchill, Ricord, Velpeau, Boech, Sperino, and Dewlz. Many of the cases in which he held consultation with the above named eminent physicians were, we are sorry to say, those of Americans. Americans will not now be under the necessity of leaving the Pacific Coast for Medical Treatment, for Dr. HALL has brought with him every new mode of treatment known to the greatest physicians of the world. To old residents of the Pacific Coast it is needless to mention the address; to new comers, however, it is necessary to mention that he may be found at the American Surgery and Dispensary, 402 Montgomery street, opposite Wells, Fargo & Co's, San Francisco. 21v18-3m

Mining Property for Sale.

A Two Thirds Interest
OF THE
Golden Rule Mining Company's Claims and Mill,

Situated in Tuolumne County, California, two and a half miles south of Jamestown, on the Great Mother Quartz Lode. A good 15-stamp Water Power Quartz Mill is situated on the property, with a never-failing supply of water, as can be shown by the last four years continual running. This Claim has three parallel Ledges, from 60 to 100 feet apart, averaging from two to six feet in width, with a length of six hundred feet. They are so situated that a tunnel has been run through them at right angles, making a surface drainage of from seventy to eighty feet in depth on the mine. The mine is well ventilated by shafts from the surface, and well timbered so far as worked. In the mine are steam Hoisting Works, capable of hoisting from a depth of 300 feet. A force of thirteen men only are required to keep both mill and mine running regularly.

On the surface and flats for a distance of 500 feet from these veins, the ground or surface was mined by placer miners, in former years, producing from two to five ounces per day to the man, during the season when water could be obtained, which fact goes to prove that a heavy deposit of ore was once contained in the croppings of these shutes, which, by all former and present theories of deep mine workings, came from below, indicating that when sunk upon to a proper depth, the lead will develop a mine equal to the Amador or Eureka.

This claim has paid its 19th regular dividend of $1,500 each, during the past four years, besides all the construction and other expense account, and has levied no assessments during the same time, and at present has on hand $8,000 in the Treasury, and no debts.

The last level, 150 feet from the surface rock, averaged $7 per ton, on which was a profit of from $1 to $1 50 per ton. The length of the two shutes of ore on the east vein, and the only one worked upon, has been about 200 feet.

Now I propose to sell two-thirds of this valuable property for $15,000, cash; and any party who desires to purchase a property of this kind—which theory has proven that it requires depth, on well known shutes of ore, for a sure fortune—can obtain a chance here, providing he or they will go down a sufficient depth. No purchaser is solicited unless he first goes and examine the mine, or sends a mining engineer in whom he can have confidence, to indorse what he may think proper of what has been here stated.

For any further particulars, direct by letter to Wm Bosworth, San Francisco, P. O. Box 1978, or at my office, room No. 5, over Donohoe & Kelly's Bank.
22v18sfqr WM. BOSWORTH.

Planers and Matchers,
MOULDING AND TENONING
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Orders for Machinery of any kind will receive prompt attention. Send for Illustrated Catalogue.
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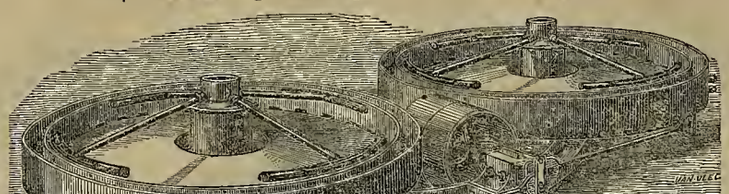
$500 WANTED—TWENTY MEN WITH $500 EACH—must be men of the right stripe—to join an expedition that is organized in this city.
FOR SALE.—Patent Dovetailing Machines, that do the work of 40 men—the greatest invention on this coast. For particulars apply to J. S. MAXWELL, 413 Kearny street, Room No. 1. 22v18-1m

MINING AND SCIENTIFIC PRESS.—This San Francisco journal is an able exponent of the mining interests of the country.—*Empire, White Pine.*

HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868

MR. MORGAN HUNGERFORD—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—Dear Sir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

In future these Pans will be manufactured by GODDARD & Co., at the Pacific Iron Works, San Francisco, which is a guaranteo that they will be built in the most substantial manner.

Theso Pans may be seen at tho Pacific Iron Works, First street, near Howard, San Francisco.

Address,
GODDARD & CO., San Francisco.
Or M. HUNGERFORD, at the Pacific Iron Works.
18v17eow

Important to Assayers.

Crucibles.

The Patent Plumbago Crucible Co.,
Manufacturers of all kinds of
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CRUCIBLES, and other fire-standing Goods,
Battersea Works, London.

THE MORGAN PATENT CRUCIBLES have uniform quality, never crack, withstand the greatest heat without danger; heats more rapidly than any other; change of temperature has no effect on them; stand on the average forty to fifty pourings.

CERTIFICATES:

United States Branch Mint, San Francisco, Cal., March 12, 1869—Messrs A. S. Hallidie & Co., Agents Morgan Crucible—I have carefully tested the Morgan Patent Plumbago Crucibles purchased from you for the U. S. B. Mint, and cheerfully certify to their superiority and economy over all other Crucibles used by and under me. They are fully what you represent them, and I shall continue to use them in preference to any other. J. M. ECKFELDT, Melter and Refiner, U. S. B. Mint.

Eagle Brass Foundry, 206 Fremont street, San Francisco 12th March, 1869—Messrs. A. S. Hallidie & Co., 519 Front street—Gentlemen:—We have used and tested the Morgan Patent Plumbago Crucible, for which you are agents, and pronounce them superior to and cheaper than any Crucible used by us heretofore. GREENBERG & MOORE.

Messrs A. S. Hallidie & Co:—We have thoroughly and severely tested in every way the Morgan Patent Plumbago Crucible obtained by us from you, and find them superior to any we have yet tried, although we have used every one obtainable in this market, we have none equal to the above, and concede your claims for them. We think they will average 45 pourings of brass. GALLAGHER, WEED & CO.,

California Brass Works, 125 Front street, San Francisco.

Assay Office of H. Harris, Silver City, Nevada, April 24, 1869—Messrs. A. S Hallidie & Co.—Genls.:—I received from you three Crucibles of the Morgan make, which I have used since their arrival, and tested by constant use. Since 1847, when in the New Orleans Mint, I have always preferred the Crucible of Dixon's make over Adus, Gautier, and Taunton, Mass. Yours I find to be not alone of more finished make, but to stand double or treble the work of Dixon's Crucibles. The No. 12—the smallest sent—has stood so far 32 meltings, and is as good and sound as when received. Your Crucibles do not scale off like others; and as they are forty per cent. cheaper, I do not see why they should not be preferred by all assayers on account of durability and cheapness. Yours respectfully, H. HARRIS.

On hand and for sale by the Agents,
A. S. HALLIDIE & CO.,
18v18-9p 519 Front street, San Francisco

Canvassing Agent Wanted!

A first-class Canvassing Agent can secure a good situation by calling at this office.
DEWEY & CO.,
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Quartz Millmen.

A gentleman of six years experience as First Engineer and Foreman of Quartz Mills in the State of Nevada, wishes a similar situation. No objection to Mexico or the Interior. Inquire at this office, or of W. F. Birch, foreman of the Vulcan Iron Works, San Francisco. 18v18-1m

Sheffield Scientific School
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This department of Yale College, instituted in 1840, and endowed with the National Land Grant in 1866, furnishes advanced instruction in the various branches of Mathematical, Physical, and Natural Science.

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Regular courses of study, leading to the degree of Bachelor of Philosophy, conferred by Yale College, are arranged as follows: 1—CHEMISTRY AND MINERALOGY. 2—CIVIL ENGINEERING 3—MECHANICAL ENGINEERING 4—MINING ENGINEERING AND METALLURGY. 5—AGRICULTURE. 6—NATURAL HISTORY AND GEOLOGY, and 7—SELECT COURSE.

Advanced students are also admitted to optional courses, and if already College graduates, are received as candidates for the degree of Doctor of Philosophy.

Tuition, $125 per year of forty weeks.

The Libraries, Museums, Laboratories and Apparatus, accessible to students, are varied and extensive.

For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

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Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
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HAMMERED IRON
Of every description and size.

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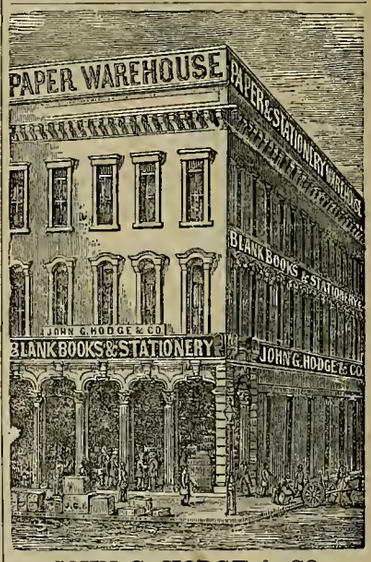

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Saving of Sulphurets in Hydraulic Mining Sluices.

Very little has been done practically in the way of saving the auriferous iron sulphurets of the gravel mines. They pass down the sluices, and are carried off like any other sand; the supposition being that all the gold in the ancient rivers is free, or if inclosed in iron sulphurets, that the grinding operation in the sluice has liberated it sufficiently to enable mercury to arrest nearly all of it by amalgamation.

Certainly this supposition, and the popular practice are partially if not very glaringly wrong. The next most common substance in the ancient river beds, beside boulders of quartz diorite and porphyry, is iron pyrites. To what extent these are auriferous appears to be little regarded or understood. We see no reason why they should not be as rich in places as are the vein pyrites. Assays, we know, are seldom made.

By means of what is known as the under-current sluice attention has been given to the further separate washing and more careful amalgamation treatment of these river pyrites. But if the vein pyrites will not give up their gold to quicksilver in the battery or pan under the most thorough disintegration and long-continued rubbing in contact with quicksilver, how are we to expect anything better from a transitory passage with water in a mining sluice?

It is merely a question whether what is left in the sluice pyrites will pay for separate treatment by pan or arastra amalgamation or by chlorination. In one locality that we know of, the under-current sluice and separate treatment of sulphurets has been made quite a feature of; and during two years of trial, these experiments have been found amply remunerative. We refer to the American mine, near North San Juan, Nevada County,—on the ancient great Yuba channel one thousand feet above the present river. The ordinary under-current sluice is nothing more than a wider sluice, underneath and at right angles to the main sluice, which is provided with more delicate and perfect washing and amalgamating conditions; only the finer particles falling into it, through cross-bars in the main sluice. The bars, and openings between them, are both about 1½ inches in dimensions, and underneath them is a sheet iron sieve, having holes of about pea size. All of the heavy grinding boulders, and nearly all of the water, pass on as usual. There are usually four or five boxes in the under-current sluice, each fourteen feet long and ten to twenty feet wide; but the object is merely a further washing and amalgamation, not the saving and further treatment of sulphurets, for these all pass away.

At North San Juan, there are now two methods in vogue for saving the sulphurets from the sluice. One of these is the invention of Orlando Jennings, described and illustrated by a diagram in the MINING AND SCIENTIFIC PRESS of April 24th. We understand that this is in use in the American mine. The other method is the use of one or two under-current sluice boxes—fourteen feet long and two feet wide—constructed and arranged with a view to catching sulphurets, instead of washing out the gold only. To effect the purpose, the sluice is dammed up by means of a slat or lath across it at its lower end; when this has been filled with sulphurets, another slat is added, and so on, until the entire box is filled. Then the current is let into another similar under-current box, while the one just filled is being emptied.

The further treatment of these sulphurets admits of great variation, according to the degree of clearness deemed most desirable, and the method of gold extraction that may be preferred. At the American they are worked by arastra amalgamation. What might be saved by subjecting them to chlorination, or by the adoption of the principles of heap-roasting, or weathering, appears to be entirely an unexperimented field. If the ordinary under-current sluice sulphurets, that pass off as tailings where the washing and saving of gold is the object, should be found to assay any amount worthy of consideration, the application of some of the finer ore-dressing machines in use elsewhere, such as the Rittinger "pointed box," the percussion table, the common sieve buddle, or the continuous discharge sieve buddle, are worthy of trial in experienced hands. So great are the well known losses in tailings from hydraulic sluices that we may reasonably hope yet for a material increase in the relative if not in the positive yield of the precious metal, from the wonderful ancient rivers of the golden foot-hills.

The Coming Institute Fair.

Applications for space are coming in with an unexpected rapidity, from every direction; so we are informed by the agent. It is evident that the Fair of 1869 is destined to prove a great success. Everybody that has any business, or who can possibly derive any benefit from participation in thus cultivating the development of either special or of general resources pertaining to the western coast, seems to be wide awake to the importance of being engaged in *this* exhibition especially. No bluster or extraordinary preparations are observable; but we see many indications that sufficient enthusiasm will be generated by the occasion itself, to answer the best purposes of success in an undertaking of the kind. This aspect of the coming Fair is surely a matter of congratulation, to everybody concerned.

The exhibition of 1869 will give a truer picture of the condition of California and her sister States than last year's Fair did because less will be done by individuals to make extraordinary display, while everything from everywhere will be represented in its workmanlike garb. We now take our position in the world, for our communications are made; we know how we stand, comprehending a little better how we are destined to be connected in the future. It is not only a free field, without grinding monopoly, but there never peopled any great country, on the face of the globe, a more generous race. Producers and manufacturers alike are here punctually of their own accord;—but let us suggest that in planning each one's articles and space for exhibition as much more than mere business be had in view as possible, since a little thoughtfulness touching the general aspect that things will have, and a little ingenuity applied to making each department *instructive*, will at no additional expense multiply incomparably the aggregate value of the exhibition, and contribute more than mere bringing together of articles to the suggestiveness of comparison—in the past, present and future tense—wherein must lie the real success of the Fair.

A new circular has been issued by the President, Mr. Hallidie, announcing that the opening is to take place at 11 A. M. on the 14th of September, and that desired information can be obtained by addressing J. H. Gilmore, Corresponding Secretary of the Mechanics' Institute of the city of San Francisco, to whom all communications must be addressed, or articles for exhibition consigned. The city canvasser is Mr. Stoddard.

Reese River and the Reveille.

The sprightly *Reveille* announces that it will, hereafter, cease to be a daily, and will appear as a weekly; in doing so it states its reason in a manly way. There was a significance and character in the name of that paper appropriate of the times when "Reese River" was silver, and fortune, and life itself in the desert unknown, far to the eastward of the Kingsbury grade when we looked towards the rising sun and *imagined*, by the side of Austin's unheard of ore, in sage brush and pack saddles that which we did not know of the Great Basin. Now, the strangeness of it is that it was only so short a time ago, and that our view of things in that direction has so changed. Austin was the pioneer city in the eastward march, and we will not forget the preciousness and the genuiness of its silver. Never was there a town worse jilted by fortune, more mercilessly outflanked, apparently—but not wholly or really so, for Austin is undoubtedly under estimated just now, as anybody can appreciate who has groped through its red antimonial silver veins, or who ever notes the figures of its bullion product oven, by the side of White Pine to-day. Fate is savagely retributive on the *Reveille* for its sarcasms against White Pine, the last new outpost in the line; but the *Reveille* was in truth seldom unjust, and Austin can well spare its nonworking, purely hoping population. It does not need great show to make a permanent and prosperous mining town. Austin will surely hold out on its own proper basis henceforth.

Personal.

We notice with much pleasure the return of Mr. Charles C. Rueger from a more than three years' sojourn in foreign mining academies, mining districts and metallurgical works. We know Mr. Rueger to have been a most energetic and indefatigable worker. He will take rank in our midst not only as a mineralogist and as a competent engineer, but his eminently practical turn of mind has procured him, under the tutorship of the most successful and renowned civil and mechanical engineers and metallurgists of the day, an acquaintance with foreign mining machinery and processes—the old and well-tried, as well as the newest—such as probably not more than half a dozen men on this coast have had the good fortune to be able to acquire. In saying this of Mr. Rueger alone, we would be doing injustice to a number of other very energetic young Americans whose scientific pursuits abroad have taken similar practical direction, suggested by our mining developments since 1860. Our country is growing; it has had a full quota of its best young minds engaged in gathering from abroad that which is most useful, most adapted to our American circumstances, and most likely to contribute to our advancement. It will have nothing to be ashamed of in them, nor in the practical road that their intelligence will direct us into.

NAPA MANGANESE MINE.—Captain Chedwick has shown us some fine specimens of massive pyrolusite, or soft manganese ore, from the Russ mine, six miles from St. Helena, Napa County, in which he is interested. The specimens are absolutely pure. Ore of 90 per cent. purity can be taken out, we are told, to a quantity of 2,000 tons, after which further development may or may not show continued richness. A sloop load has been brought to this city and shipped to England. The mine is understood to be a vein deposit, like most of our California manganese. So plentiful are the ores of manganese in this country—oxide, silicate, and carbonate—that the world could be supplied, for bleaching, iron making purposes, etc. A considerable market for it exists locally, arising from the quantities needed for sulphuret chlorination, and latterly also for silver chlorination.

[From Rowlandson's "Earthquake Dangers, Causes and Palliatives."—just published.]

Palliatives, Suggestions and Conclusions

[Continued from Page 338.]

Respecting wooden or frame buildings, notwithstanding no actual danger may be apprehended by the sole use of timber, in the construction of elevated dwellings, such as those of four stories elevation, it is by no means advisable that dwellings so constructed should exceed two stories in bight, the great flexibility of the material making it more susceptible to the effects of the earthquake shock, as compared with those of bricks. If it happens on such occurrences, that any inmates should be occupying the upper stories, the swaying motion may become alarming, though not actually dangerous; to females in particular, such feelings of alarm are particularly likely to prevail with considerable force. In fact, I am perfectly well acquainted with the case of a lady who was months before she recovered from the effects of the shock of the 21st of October, 1868, in consequence of the sensations occasioned by a motion such as described, which occurred in the fourth story of a dwelling situate in the higher part of Post street. I may state that the lady is not by any means possessed of a timid disposition. As one of those apparent anomalies of earthquakes, it may be mentioned that the husband of the lady alluded to was at the same time taking a stroll amongst the bushes on the contiguous sand-hills, and felt the shock so slightly that he was not aware that an earthquake had occurred until his return home.

There can be no doubt, however, that had a dwelling of similar character been erected on the sand-hills alluded to, the swaying motion would have been equally great, provided the stratum below the sand-hills was of a similar lithological character. It is such apparent discrepancies that have lent so much aid to the dissemination of the magnetic and electric theories of the origin of earthquakes.

Power of ornamentation will undoubtedly possess a powerful influence in deciding what shall be the species of domestic architecture hereafter to be adopted generally throughout the State. In this respect wood possesses great advantages over dwellings whose walls are composed of brick or stone; the adaptability of wood for gilding and exterior polychromic adornment is illimitable, and peculiarly so with a great variety of Asiatic architectural styles. Many of these are peculiarly suitable for rural dwellings, whether it relates to the erection of a simple cottage or one of palatial proportions. The styles alluded to embrace all the varieties that dome shaped structures are capable of assuming, either with or without the accessories of towers and minarets; glass and ironcombined with wood, as materials, are peculiarly well adapted for the kinds of architecture noticed, and for accompanying floral and subordinate arboral ornamentation, none excel them. Fountains in many cases could be brought in aid to highten exterior and interior effects, while the waters might by easy contrivances be made economically available for irrigating purposes. Such are some, and only some, of the amenities which may be made to pertain to rural wooden structures by the judicious employment of coloring, gilding and varnish. For interiors, in place of plaster, less pretentious dwellings may be made secure, comfortable and ornamental, by due attention to the graining of the timber employed in interior linings, especially as many varieties are susceptible of tints agreeable to the eye, while those of a more extended and expensive description possess, in *papier-mache* and *carton-pierre*, a plastic material of almost limitless application for the purposes of wall and ceiling decoration. It may seem Utopian to some to here make allusion to substances whose useful applications are at present so little known in this community; but if this State is at all to equal the aspirations expressed by many, as a textile producing country (and few can appreciate its capabilities in this respect in a higher degree than the writer), we shall in a short period possess in the waste materials of such crops a practically illimitable source of the raw material required for making the useful and decorative articles alluded to; one of the chief utilities of which would be found to consist in the circumstance, that owing to their greater elastic limits, as compared with lime plaster, they would not injure by cracking, either from natural atmospheric causes or the effects of earthquake shocks.

A draw-back to the advantages above set forth of using wood for architectural designs exists in its inflammable character, to which may also be added its general liability to decadence. I shall allude to these two drawbacks as one, because both are preventable and can be attained by the same means at one operation. If, however, these valuable results are to be made practically and economically available, it will be requisite that the substances to be employed for the purposes proposed shall be attainable like the sources of raw material for making *papier-mache*, those generally consumed by the paper manufacturer, or the agriculturist for manure, viz: the employment of substances valueless for any other purpose than some particular specialty. We possess, in this city, about half a dozen modes and proposals of modes, for preserving timber, but the substance or substances employed for this purpose cost in the average from two to two and a half cents per pound. In order to be sufficiently economical to thoroughly impregnate timber with any of the substances so proposed to be employed, these chemicals ought not to cost much more than the charges of hauling and the requisite manual labor required in handling.

We ought to be under no necessity of importing these substances, for in California we have a limitless field for their cheap production, as will become evident whenever a rational system of metallurgy is adopted by those interested in the reduction of our auriferous and argentiferous ores; space, and time also, now forbid entering into any lengthy details on this branch of the subject. If sufficient attention is given to the present treatise by the amount of patronage accorded, I shall probably be induced to present an extra sheet relating to these matters at an early day.

On the use of iron in strengthening wooden, stone and brick buildings, I shall omit making notice from want of space at my disposal. I the more regret this circumstance, as I see that metal in many cases most inappropriately applied for the purposes intended. If, however, what is now given to the public meets with its approbation, it will be easy for me, in a second part, to give *in extenso* my views on this and many other subjects, which are either wholly omitted or only partially touched upon.

The delay so occasioned by the omission at the present time of the matters noted will probably prove advantageous to the future rational discussion of those which are omitted, for in order to do this it is indispensably requisite that we should in the first place fully comprehend what an earthquake is, and consequently its origin. It has been one of the chief aims of the writer to impress his readers as far as in his power lies, with what he considers to be the true *vera causa*. When this is well understood and acquiesced in, the appropriate construction of buildings to resist earthquake shocks becomes comparatively easy. An increased length and diminished thickness of brick, as previously noticed, would, I think, when laid in good lime mortar, mixed in the proportious named, accomplish all that is needed for safety, so far as security may depend upon the character of the materials employed in the construction of interior and exterior brick walls. The *bond* is the next matter of importance, and that should be either the genuine English or Flemish, with bricks of the form of 8x4x2½ inches; the English will be found the best. If, however, bricks were made 12x4x2, as suggested to me by an architect of this city, instead of six inches wide, as named by me in a former page, perhaps the Flemish bond might be found to possess some advantages; under any circumstances, if a law does not now exist, one ought to be obtained as early as possible, prohibiting, under the severest penalties, the erection of brick walls unless the bond alternated every other course, one of which should be the compulsory re-erection of any portion of a wall in which a layer of stretchers was not overlaid by a layer of headers. It has frequently been noticed by architects that corbels should be used for the support of joists and timbers. These possess many advantages. Such a mode, however, presents some that are not so, when we come to examine into the conditions which may occur with earthquakes.

When properly explained and fully understood, the earthquake becomes far less mysterious than thunder and lightning, and with the dissipation of the mystery hitherto accorded to its dynamic origin, much of the alarm arising from its occurrence, it is boped, will cease to trouble timid minds. Timidity has certainly been carried to excess by those who have left or expressed a purpose of leaving this State on account of earthquakes. To such the question may be asked, where would they go to avoid earthquakes? To Massachusetts? Why, Boston was shaken to its very center by an earthquake in 1755. To Missouri and the Valley of the Mississippi? This large section of the United States was agitated by earthquakes for months during the year 1812. To England? When Shakspeare wrote the splendidly poetical description of earthquakes in which he so graphically states,

"Shakes the old beldame Earth, and topples down
High tow'rs and moss-grown steeples."

These sentiments were written by the bard of Avon under the inspiration of the traditional accounts handed down to his time, of a severe earthquake that took place in England about a century previous, at which period several churches in that kingdom had been leveled, and cathedrals damaged by one of these phenomena. Where, then, shall the timid flee in order to avoid earthquakes?

It is well observed by Mr. Mallet, that "all human difficulties to be dealt with must be understood. Were understanding and skill applied to the future construction of bouses and cities in Southern Italy, few, if any human lives, need ever be again lost by earthquakes, which there must recur in their times and seasons." Mr. Mallet states that this important fact has been pointed out by several Italian writers, and that Colosimo, in a brief account of the Calabrian shock of 1832, has described some of the conditions that should be observed in the erection of buildings. Read California for Southern Italy, and the remark will apply with equal, if not greater force.

Another English Novelty.—*The Engineer* describes and pictures a little instrument called the "electric wand," invented by an F.R.A.S., whose name is given,—"which has deservedly begun to meet with a large sale," and so forth, and so forth, in the usual style. It is a glass tube, with a wooden handle, and a rubber, to which a small Leyden jar is attached; and is described as the simplest frictional electrical machine in the world,—"as compared with its power"—*(sic)*.

Now, although this is a very trifling matter, yet, as we have had something to say of the way our English friends have of complacently monopolizing all the credit of every invention which promises to be "a success," we will just quietly remark that an old uncle of ours got up this very thing twenty-five or thirty years ago, to please the children with—as we most vividly recollect; and we think he afterwards patented it. At any rate it has been in use, more or less, ever since. It differed from the F.R.A.S.'s only in having the Leyden jar separate from the rubber.

Magnesite or Meerschaum.—This is a product of the decomposition of carbonate of magnesia. When first dug up, it is damp, soft, and greasy. The Tartars use it as a soap to wash linen, and the Arabs in baths.

Spain is to elect a sovereign in October next. A new Provisional Ministry will be formed to conduct the affairs of the government in the interim.

Commissioner Fisher.

When Samuel S. Fisher, Esq., of Cincinnati, was confirmed in the appointment of Commissioner of Patents, we published a few brief remarks from our Washington Agent highly complimenting the new appointee, and we are now glad to note the following corresponding good opinion recently expressed by the *Scientific American:*

Mr. Fisher is comparatively a young man, being but 37 years of age. He is a native of Michigan; studied law at Philadelphia, and afterward removed to Cincinnati, where, for fifteen years, he practiced his profession with that success which always follows ability, industry, and sterling integrity.

During the war, and when one-hundred-day regiments were called out, Mr. Fisher served as Colonel of the 138th Ohio, operating in front of Petersburg, Va. He now holds the responsible position of President of the Board of Education, of Cincinnati, and is highly esteemed in that city as a Christian citizen and an efficient co-worker in all public enterprises and reforms. Mr. Fisher was appointed entirely without solicitation on his own part. He is not indebted to any outside influence for the honor conferred upon him, and enters upon his duties entirely independent of political or patent cliques. From our knowledge of the character and antecedents of the new incumbent, we do not hesitate to say, that inventors may rely upon him as a true friend; and, furthermore, that the duties of the commissionership will be administered by himself, and without the intrusive assistance of certain parties who seem to act as though the Patent Office was under their special guardianship, and the Commissioner a mere appendage to a lobby, which has cast a shadow over the good character of that office.

Commissioner Fisher is a hard worker, and, if business of the Patent Office flags—if there are any drones in this hive of industry—he will be apt to inquire the reason why. He takes hold of the affairs of the Patent Office with an earnest purpose to effect a speedy reform of past abuses. He recently invited the Examiners and Assistant Examiners to his room, where some time was spent in interchange of views regarding the business of the office as it relates to the examination of cases, and he proposes to dispense with some of the present useless forms, in order to facilitate the procuring of patents. The Commissioner gave some opinions for the guidance of the examiners, in order to secure more uniformity in the general practice of the office.

Ohio Solons.

The Legislature of Ohio propose to pass a bill making it necessary that a note given in purchase of a patent right shall so state upon its face. The notion of these wiseacres is that it is doubtful whether there is any value received in the case:—and that the note should therefore be one which is not negotiable, so that the purchaser can refuse to pay if he finds the patent less valuable than he expected. By this sort of thing, the inventor is virtually prohibited from bringing his patent before the public and proving its value by the aid of money raised from the sale of a part of it,—until he has *first* proved its value by bringing it before the public! O wise men! O most excellent legislators! Let us hope that they will not next pass a law forbidding a man's going into the water until he has learned to swim!

One word about promissory notes. A contract is one thing, and a note is another thing. If it isn't it ought to be. A note, for instance, given in payment for a horse, ought to be binding, even if the animal's tail should drop off the next day. The purchaser's remedy should be in other statutes, just as much as if he had paid *cash* for the horse. The expression "for value received" should suffice to make the writing money in the eyes of all men who believe in the drawer's ability to pay, whether an equivalent passed or not. It is at best a mere fiction. How could business be carried on if the question of value received were actually raised in the case of every note that circulates?

Mechanical Progress.

The Telo-Dynamic System.

Mr. Hirn's plan for transmitting power through long distances, which we have before spoken of in the PRESS, is based on the following principle,—as stated in the *Journal of Practical Mechanics:*

"If we suppose a band of round iron of one inch in diameter to be capable of sustaining a steady pull, without sensible alteration, of ten tons, and that the bar be pulled with this force endways, so that a point between the motor and the resistance moves at the rate of one foot per second, then it is obvious that the bar itself will be transmitting 'work' at the rate of ten foot-tons per second. A bar of half its diameter, or one-fourth its section, can only be strained to 2·5 tons, and at the same rate of 'end-on' motion, can only transmit 2·5 foot-tons of work per second; and so also of a bar one-fifth of an inch diameter, or one-twenty-fifth of the area of the one-inch bar, it can only transmit ·04 ton, and, at the rate of one foot per second, ·04 foot-tons of work. But suppose that the half-inch bar moves end-on at the rate of four feet per second, and that the one-fifth inch diameter wire moves at the rate of twenty-five feet per second, then, as work is made up of pressure, time and velocity, all three bars, much as they differ in section and in absolute strain upon each, will transmit the same number of foot-tons per second: *i. e., shall all be capable at the resisting end of delivering forth equal quantities of motive power in equal times.* If, therefore, we increase the velocity of motion of the wrapping connector, which is intended to transmit a given amount of motive work in a given time, we may reduce its section, because we have reduced the strain upon it, and hence its total weight in the inverse ratio of the increased velocity. We may, in fact, to put an extreme illustration, reduce the one-inch round bar to an iron wire, as fine as a human hair, and yet (theoretically) get out of it at the resisting end our ten foot-tons per second."

Mr. Hirn makes his pulleys of steel, with a V-shaped groove, having at the bottom a ring of softened gutta percha, upon which the wire rope of transmission bears. With two pulleys, each of twelve feet diameter, making 100 revolutions per minute, and with a wire cord of two-fifths of an inch in diameter, he found that 120 horse-power can be transmitted 150 yards with a loss of only 2½ horse-power. He has proved that 120 horse-power may be transmitted twelve miles, leaving at least ninety horse-power available at the remote end; whereas, with ordinary horizontal shafting, to secure the same available power at the same distance, over 700,000 horse-power would be required at the motor end.

FRENCH SILVER.—This differs from German silver in having part of the zinc replaced by cadmium. The recipe is as follows: Seventy parts of copper, 20 of nickel, 5½ of zinc, and 4½ of cadmium. It is very hard, and is capable of taking a brilliant polish.

Another is composed of copper 56 per cent., nickel 40.64, tungsten 2·80, aluminum 0·56. It is white, ductile, malleable, tenacious, and sonorous. Its specific gravity is nine-tenths that of silver, and its fusibility less.

TO DISTINGUISH STEEL FROM MALLEABLE IRON.—Moisten with a drop of dilute nitric acid. A dark gray spot will be produced upon steel; a green one upon malleable iron.

DISCHARGING SHIPS OF GRAIN.—A new English method is by a large screw revolving in an upright cylinder, one end of which rests in the hold. This does its work very rapidly, and will answer to raise either grain or water, or a mixture of the two.

ZINC FOR BUILDING.—It appears from actual experiment that oxidation proceeds for about four years, gradually diminishing after the first three months, when it hardens into a protecting coat of a dark gray color, preserving the metal beneath from further deterioration. It appears to be evident that a sheet of zinc exposed to the atmosphere for a series of years loses little or nothing of its weight or thickness, and that its surface remains hard and polished like enamel.—*Iron Age.*

Heavy Forging.

The New York *Artisan* of April 7th, describes the recent forging in that city of a paddle-shaft for one of the new steamships of the Pacific Mail Co. We quote a part of the article: "These shafts are the largest ever made, being thirty-nine feet in length, and thirty-two inches in diameter in the largest part. They weigh, after finishing, about forty tons each. They are made of Lake Superior iron, which is brought to the forge in pigs and puddled in the establishment. The puddle-balls are first made into slabs about thirty inches long, and five or six inches square, and weighing from 200 to 250 pounds each, two balls forming a slab; and the shaft is produced by "faggoting" and welding these slabs together in such a manner as to keep adding to the shaft lengthwise. The heats are taken in a reverberatory furnace with an air blast, and worked under a nine-ton steam hammer, while the shaft is slung in such a manner as to be nearly balanced in a crane by which it is drawn from the furnace, the shaft being turned upon the anvil by means of levers clamped to it. From four to five heats are worked in a day, and from fifteen to eighteen days are occupied in making one of these shafts. So perfect were the arrangements that this ponderous mass was moved lengthwise and turned upon the anvil with as much apparent ease as though it had been a nail rod. These shafts are larger in diameter, by nearly one-fourth, than the paddle-shafts of the Great Eastern. The quality of the iron of which they are made is such that a bar of it can be doubled while cold, with a perfectly sharp bend, without breaking."

CREOSOTE AS FUEL.—The following is from the London *Daily News:* "At Mr. John Schwartz's sugar refinery in Pelham street, Spitalfields, more than one thousand gallons of creosote oil are daily consumed in heating his two furnaces, which are of one hundred and forty horse-power. According to his calculation, two hundred and twenty gallons of the oil—the cost of which is one penny a gallon—equal in heating power two and a half tons of coals, and one pound of the oil will evaporate thirteen pounds of water, whereas one pound of coal will evaporate seven pounds of water.

It is more economical, more cleanly, and less offensive than any other kind of fuel, emitting neither smoke nor smell. Mr. Schwartz's furnaces are supplied from a large tank, from which the creosote flows through a pipe into the furnace, along the sides of which it is propelled by a jet of steam. Coming in contact with the fire (of which there is a small basis in the shape of a red hot coke and brick) it ignites, and burns fiercely with a pure white flame; and the combustion, being perfect, leaves no residuum of any kind."

THE INDICATOR.—When it is practicable, diagrams should be taken from each end of the cylinder. The assumption that, if the valves are set equal, the diagram from one end will be like that from the other, is erroneous, owing to the difference in the speed of the piston at the opposite ends of the cylinder. This is, at the outer end of a direct-acting engine, from 35 to 66 per cent. greater than at the crank-end, the difference varying according to the degree of angular vibration of the connecting rod. In side-lever or beam engines, these proportions are reversed, and the speed of the piston is greater at the upper end of the cylinder. Often, also, there is a difference in the lengths of the thoroughfares, and in the lead, or amount of opening, or the point of closing; and many times the valves are supposed to be correctly set, when this indicator will show that they are not. These and many other causes, will make a difference in the diagrams obtained from the opposite sides of the piston. One use of the indicator is in fact to show whether or not the diagrams from opposite ends of the cylinder are alike.—*Scientific American.*

THE INJECTOR.—On locomotives in Germany the injector is more and more superseding pumps for feeding, even independent steam pumps. Its advantages are that it works with certainty and needs no repairs. Herr Krauss, constructor, of Munich, has reduced this instrument to extreme simplicity. The water flows in a straight line from the tank into the boiler. There is no movable cone to regulate the influx of water; nor is there any movable coned needle to regulate the admission of steam. The steam nozzle enters the water-chamber, and bends into center line at the point best for general working, and thus the whole instrument is solid.—*Artisan.*

Scientific Progress.

The Phenomena of Boiling Liquids.

Charles Tomlinson, F.R.S., F.C.S., says that the "promoters of vaporization," or as he terms them, "nuclei,"—of which we have before spoken in the PRESS,—are not so by virtue of their roughened or sharp-pointed edges, but in consequence of their retaining some impurity upon their surfaces. If made chemically clean, they cease to act as nuclei, because the water then adheres to them, without giving up its vapor,—consequently the boiling is no longer tranquil, but attended with violent bumpings,—due to the intermittent escape of the vapor when the water can hold no more. A rat-tail file, for example, is ordinarily a nucleus, because it collects between its teeth greasy matter, and other impurities to which the water will not adhere. But if passed through the flame of a spirit lamp, it becomes "denucleized" in being cleansed, and then causes no action when plunged, as before, into hot water just below the boiling point. If, however, it be now waved in the air, it will again excite the liquid to action, on being returned to it. It has, in the waving, gathered motes or specks of dust which were floating in the air,—and is again a nucleus. Among Mr. T.'s experiments were the following:

"Ether was raised to the boiling point, and a pellet of paper thrown into the tube. The liquid boiled up furiously, the paper being much agitated, when suddenly it sank as if struck dead, and all vapor-giving action ceased. It had in fact become chemically clean. The paper was removed, and a brass wire passed down to the bottom of the tube, when the liquid boiled up briskly during a few seconds, but on the wire becoming clean all action ceased, except from a point near the bottom of the wire, which poured off a stream of bubbles. The wire was taken out and filed, in order to get rid of this nucleus, but the active point was got rid of, for there were now two such points giving off rapid discharges of vapor. These points were probably bits of porous dross entangled in the metal.

Methylated spirit boiling at 171° Fah. was kept at about that point. A piece of flint was put into the tube; abundance of vapor was given off from its surface. The newly fractured surfaces being chemically clean, were quite inactive, not a single bubble of vapor appearing on them, while the old surfaces continued to give off vapor as before. Five ounces of distilled water in a clean flask boiled at 213 17-20° Fah. Some clean mercury was poured in,—enough to form a ring at the bottom of the flask. The water rose to 214°, with much bumping; steam forming under the mercury, and distending it into hemispheres, each of which burst with a kick. While this uneasy boiling was going on, a very little dirty mercury was added; and although the quantity was not more than one-sixth of that previously added, the effect was remarkable. Instead of the uneasy kicking, jerking bursts, the boiling became brisk, easy, and soft, rapid volleys of steam-balls being given off by the metal, breaking up the mass of water, while the temperature remained steady at 212 2-20°."

Many substances which may be used as nuclei are not well suited for the purpose, because they soon become clean and cease to act. But porous bodies, such as charcoal, pumice stone, etc., are permanent in such action. They probably act by capillarity, in separating the water from the vapor. Mr. Tomlinson remarked upon the practical value of the principle which he claims to have discovered, inasmuch as the chemist in the laboratory now has an explanation and a remedy for the successive dull explosions which often endanger the flasks in which boiling is accomplished. Also in the hint it furnishes towards lessening the strain upon large steam boilers. Also in the economizing of the heat in sugar boiling, distilling, and other manufactures. By preventing the waste of heat in the jerky explosions, a greater amount of distillate is obtained with the same amount of fuel.

ELECTRO-CHEMICAL TREATMENT OF SILVER ORES.—M. Becquerel has presented to the Academy of Sciences a paper upon a process which he claims to have pointed out some years ago, viz.,—"the Electro-Chemical Treatment of Minerals of Silver, Copper and Lead." The method consists in the employment of galvanic couples composed of zinc, iron, and lead, associated with plates of copper or a piece of well-baked carbon. The plates of non-oxidable metal or the non-metallic conductive substances were put in immediate contact with the argentiferous metallic solution, whilst the plates of oxidable metal were placed in a permeable diaphragm made with untanned hide. This was filled with salt and water, and the plates were then put in metallic communication with each other. The mineral was placed in the vessel containing the saline solution, and was rapidly stirred by machinery for the purpose. The mineral being deposited, the liquid was decanted into other basins, in which the galvanic couples were placed.

The Monster Induction Coil.

The London Polytechnic Institution now has the largest induction coil in the world. It is 9 ft. 10 inches in length, and 2 ft. in diameter. It will,—says *The Engineer,*—furnish a spark 29 in. in length, and apparently ¾ in. in width, striking the disk terminal with a stunning shock. The power of this flash may be estimated from the fact that it will perforate a mass of plate glass 5 in. in thickness. The channel made by its passage is about 1-50th of an inch in diameter, and has a zigzag course; but all round it the glass is starred in radiating lines, which make the perforation appear larger than it really is. When the terminals are brought within 3 in. of each other, the discharge issues slowly as a brush of waving flame, and this flame may be blown away in a broad sheet, leaving the actual line of discharge unaffected and visible by its different color. Some other phenomena, hitherto only discoverable by the most delicate instruments, have already been rendered plainly apparent to the senses, and for some time to come it is probable that each day will be marked by new discoveries. As a source of ordinary electricity the power of the coil is beyond all expectation. It will charge a Leyden battery of forty square feet by three contacts of the break; and the discharge of this battery deflagrates considerable lengths of wire with great rapidity. A larger Leyden battery is in course of construction, to consist of thirty wide-mouthed carboys, each holding ten gallons.

IS AMMONIUM A METAL?—Landolt has made some experiments towards the determination of this question. Starting with the well-known fact that potassium or sodium-amalgam will throw down most metals from solutions of their salts, he argues that the ammonium-amalgam, if analogous, should do the same. Freshly prepared ammonium-amalgam was placed in the metallic solution, the separated mercury was washed with water, dissolved in nitric acid and examined for the metal whose solution had been used. The result with cupric sulphate, argentic nitrate, and ferric chloride solutions was entirely negative, though at least 100 grams of the amalgam was employed. While therefore NH^4 combines as such with the mercury, its metallic character is doubtful; further researches only can decide its nature.

HUXLEY ON COMTE.—In a recent lecture Professor Huxley made use of the following language:—"In so far as my study of what specially characterizes the 'Positive Philosophy' has led me, I find therein little or nothing of any scientific value, and a great deal which is as thoroughly antagonistic to the very essence of science as anything in ultramontane Catholicism. In fact, M. Comte's philosophy in practice might be compendiously described as Catholicism minus Christianity."

THE POLAR STAR.—The pole slowly shifts its position, so that in 12,000 years Alpha Lyrae will be the pole star. The inclination to the horizon of the entrances to six of the pyramids of Egypt is such that at about the time the pyramids were built, the entrances pointed directly to Alpha Draconis, which was then the pole star.

THE LATEST THING IN BATTERIES.—Böttger proposes to substitute metallic antimony for carbon. An amalgamated zinc plate is immersed in a strong solution of salt and sulphate of magnesia. The antimony, as was the case with the carbon, is placed in a porous pot; but the liquid used is dilute sulphuric acid.

Farming and Gardening.

Cherries.

The cherry has ever, in all ages, been recognized as the favorite among small fruits. It is cultivated in all temperate climates. It is of Asiatic origin, and was introduced into Europe by the Romans, during the first century of the Christian era. At that time only eigbt varieties were known; now the catalogues record over 500 ; many of these so-called varieties, however, are so nearly alike as to show very little variation in either size, color or flavor.

ITS CULTIVATION.

Years ago the cherry was a very healthy and productive tree, especially in England, wbere it was very extensively cultivated. Less tban one hundred years since this fruit waa cultivated as easily and with as sure returns as the apple; and it is even within the recollection of the present generation that tbe diseases which so severely afflict the tree have become general. The lack of success in this cultivation is now generally attributed to over cultivation ; the trees are killed by kindness—they are too highly manured. The cherry tree seems to be peculiarly susceptihle of heing forced in growtb. This excess of growtb, like over-stimulation in man, results in a diseased system—the tree becomes tender and diseased, and in a short time ceases to produce frnit, and dies. Disease shows itself by a burstiug of the bark, and exuding of gum from every wound. Warts also sometimes appear, and do considerable damage. When tbe tree is in such a condition it readily succumbs to drought, or excessive moistnre, and, in cold climates, to the severity of winter.

Wben tbere is reason to believe the tree is sufferiog from the causes above hinted at, it is a good plan to sow the cberry orchard with grass. Experiments of that kind have been found very successful at the East.

Especial care should be taken to procure healthy stocks. Bnd or graft only into sucb stocks as are known to be healthy. Tbe cherry is a difficult fruit to graft; grafting, if practiced at all, should be done very early in the season, before the buds start in the least. Make a clean cut—not a mere *split*—in tbe bark of the stock. Budding is preferable, and more reliable tban grafting.

The cherry appears to do better in the virgin soil of California than in the older lands at the east, whicb require highly stimulating manures to keep them in good condition. The climate of this State, also, seems to have a peculiar influence in changing the character of this fruit. This is also true of other fruits, particularly the apple.

The cherry season commences here about the first of May. The varieties grown bere are enumerated by the *Bulletin*, as follows:

The Black Tartarian, which, early in the season, will sell for 60 to 75 cents per pound by the box, and retail at 75 cents to $1. The Royal Ann, classed as a white cherry, with ruddy sides, a handsome, firm-fleshed, luscious fruit, comes later in the season, and sells at 40 to 50 cents by the box ; retail at 50 to 75 cents. The Mayduke is a handsome, bright red cherry, of medium size and fine flavor, is more grown than any other variety, and sells at 18 to 25 cents by the box, and 25 to 35 cents at retail. Coe's Transparent, a fine variety, brings 25 to 30 cents at retail. The above are the principal varieties. There are other varieties, as the Black Eagle, Bigarreau, Holland and Napoleon (one of the best for shipment, of a light color, firm flesh and an abundant bearer), the Vanskike, Kentish (for cooking), Gov. Wood, etc. ; each having their admirers. The largest growers are Robinson, Dr. Haile, William Meek, Lewellyn, Crane and Martin, of Alameda; Thompson of Suscol; New Park Farm and L. A. Gould, of Santa Clara, and others whose names do not occur to us at the moment. The fruit deserves larger cultivation, as it requires but little care. is an abundant bearer, sells at a high price, and will bear transportation to considerable distances. No fear need be entertained of overstocking the market, as the market will grow as fast as the trees are likely to be cultivated.

Bedding for Horses—Stable Disinfectants.

Quite too little attention is paid to the comfort and health of horses in tbe stable. Nine-tenths of the diseases which happen to the boofs and ankles of tbe horse, and many other ailments also, are occasioned by standing on stone or plank floors, or in wet, dirty stalls. A horse will soon get tired of stauding on a hard floor; so will an ox, a cow, or a sheep. All animals, as well as men, like a dry, soft bed, and they should have it. Nature designed the hoofs of animals for soft surfaces, which should be slightly moistened during the day, hut as dry as possible at night. In their wild atate, in tbe woods and valleys, they always provide themselves with such comforts ; and man generally does well when be seeks, so far as is reasonable, to imitate uature.

STABLE FLOORS.

When the materials are couvenient. as in tbis city, three bushels of sifted coal ashes, mixed with two of good lime, aod made into stiff mortar with tar or liquid asphaltum, the whole spread on a level hed of small stones, well rammed down, makes as good a floor for a stahle as can be devised —better than planks. Tho question of stable floors is deserving of more attention than it generally receives.

BEDDING.

Hay or straw is unfit for bedding, unless entirely removed, and fresh material put down every day. Sawdust is decidedly better, as by proper caro it need not be entirely renewed every day. Put it down, in tbe first instance, from six to nine inches deep, and take off the damp and soiled surface every morning. spreading evenly over the mass a thin covering of fresh material. The entire bulk need not he removed ofteuer than once a month. Sawdust is friendly to tbe feet, affording them a cool, porous stuffing, an excellent substitute for the fresh soil, always found in the hoof of a borse at grass. It has also the advantage of heing uneatable—a most important consideration witb horses in the habit of consumiog their litter. Its slight turpentine odor is also a sweetener to the mass, and rather a disinfectant tban otherwise. Where manure is salahle, tbat fact gives additional value to sawdust, as the best attainable absorbent of ammonia. Pine sawdust is altogether preferahle; oak is the poorest, as it contains a fermenting principle, decidedly injurious to bealth.

Many prefer sand to sawdust, especially for use in warm weather, as it does not heat; it is also very cleanly. Heated hedding is decidedly bad for boofs. Spent tan-bark also makes an excellent bedding. At all events, give your horses, and all othcr animals, a dry, soft bed; and in cold or wet weather, a good warm shelter. Food eaten under such circumstances produces more fat and more muscle, than when fed in improper places.

STABLE DISINFECTANTS.

Every farmer and every stable-keeper, would save money and better the condition of his animals by a reasonable use of disinfectants, to take up aud "fix" the ammoniacal vapors which always rise from wet stahle floors, litter or manure. Nothing is better for this purpose than ground gypsum or plaster of paris. Where this can be obtained cheaply it should be used freely every day, and when manure is valuable, it will nearly or quite add its cost to that product. Dry peat is perhaps the next best material for that purpose. In the lack of both, a stiff, dry loomy soil answers a good purpose. Soil is a great absorhent, as those who have noticed the recent writing's on dry earth-closets, are well aware. Soil which contains a large portion of clay, intimately mixed, is the best for sucb use. There is more philosophy in a well constructed stable than most people are aware of.

Feeding Stock—Ground Hay.

Quite too little attention is generally given, by farmers, to the method of feeding their animals, and to the character of the food placed before them. The fact is seldom brought to mind that it costs quite as much to provide food for the animals in the United States, as it does to feed its entire population; if it *was* so brought to mind the question proposed would be received as one of the most importanq economical considerations which could engage the attention of the farmer. A aaving of teu or even six per cent. in this direction, would amount to millions annually.

Onr attention has been particularly called to the subject at this time from the following item from the published reports of a late meeting of the Farmer's Clnb of the American Institute, of New York :

GROUND HAY.—Mr. Joseph S. Kirk, Pittsburg, Pa., forwarded a specimen of ground hay and recommended it as food for cattle. He says ten tons a day can be prepared at a cost not exceeding one dollar per ton. After passing through the mill, it resembles ground oats and weighs from thirty-two to thirty-four pounds to the bushel. Mixed with corn or other grain, it makes a cheap and excellent food. He wished to know the relative value of good, bright hay as compared with oats of equal weight. In reply, a member said that three pounds of hay are equal to one of oats.

Much has been said both *pro* and *con* on the question of cnttiug feed for stock. Those who disapprove of the cutting process, hold that it is a provision of nature that animals should take their food slowly, and spend much time in chewing it—especially ruminating animals. They point to tbeir plentiful supply of molars ; to the lahyrinthian convolution, and honeycombed appearanco of the digestive organs of the ruminaots, by which their food is turned and rolled, after heing swallowed, and triumphautly argue therefrom that bay-cutters and all such modern contrivances are nuisances ; that they dehauch the animal's stomach aud call for useless labor in the preparation of food.

Such people, however, forget that there is a difference between animals in a state of nature, who have an abundance of time to to eat slowly, chew the cud at leisure, and sleep when all is done—with no work to interfere, and those which are domesticated. When it becomes necessary that man should abridge the time of eating for animals, it follows as a matter of course that he should provide some compensation for his interference with nature's laws ; this he does by providing machinery to partially disintegrate the food hefore it enters the stomach.

The object of masticatiou is to comminute tbe food—to so break down its structure as to render it more easily acted upon by gastric juice. If the animal lacks time to do this for himself, man must assist him. If "cutting" thus aids nature, "grinding" will do so still more. Tbere is no danger of inventing machinery to cut or pulverize food too finely for working animals. The more finely divided it ia, ao much the more surface is presented to the action of the digestive fluid, and the sooner the animal is through with his meal, aud in a proper condition to get the rest and sleep which he needs. It is useless to point to naturo when we break nature's laws at the start. The best possible evidence in favor of cut food is the comparative results shown when it is employed by the side of food that is uncut. When results show a farmer that 10 pounds of cnt food is uniformly as nourishing as 15 pounds of uncut, lectures on anatomy will not convert him to the opposite opinion.

FLAX SEED FOR HORSES.—It is said that flax seed occasionally given to horses or cattle, will make them shed their old hair, and whether old or young, soon get sleek and fat. It is the only thing which will fatten some old horscs.

The Garden.

It is a matter of astonishment to us that so many of our farmers manifest an almost perfect indifference to a garden. There is no estimating the saving whicb may be effected by the proper culture of such a piece of ground. Every farm should have its garden, and every household too, wbich is so situated that such a convenience is within reasonable reach. There are few things as useful, in making farm life attractive, as a well-laid out and well-tilled garden. There should be flowers there, as well as fruit, and all kinds of berries; choice vegetables, also, such as asparagus, celery, egg plants, lettuce, etc. Such tbings are healtbful as well as palatable, and no farmer should deprive his family of them, or neglect to provide them. They cost next to nothing. They occupy but little room, and the time required to care for them may be taken out of odd hours, when tbe farmer or his "help" or boys, are waiting for a team, or bave an hour to spare before going to some place—bours which would not be spent in the field, anyhow, and which, hut for the garden, would be lost.

In this country, where tillage is ao much easier than it is in the Atlantic States; where the weeds have not got well seeded, and where tbe soil is rich and generous, farming is easy, and the husbandman haa much more time on his hands than he has been accustomed to fiod in the Eastern States—an abundance of time to attend to his garden, improve his mind and to cultivate tbe social relations. It furnishes rational, healthful and useful occupation for the boys, and girls, too. It is an ornament to any home, and a comfort, convenieuce, and cheap and innocent luxury to any family. It makes a man love his home, and it vastly increaaes the attractions of home for the children. A well laid out garden, provided witb choice fruit trees and berries, will add more to the value of a homestead than the same amount of money can possibly do expended iu any other manner.

The moral influence of the garden is also an important consideration. Its care fosters habits of industry among the boys, and there is something in the very aspect of such a place well calculated to sooth irritated feelings, to promote peace of mind, to encourage patience, perseverance, thought and care. Graceful trees wave a welcome to incoming footsteps, flowering plants seem to smile upon the passer-by, and fruit-laden boughs drop their rich, ripe products into tbe hands, as if to reward them for their pains-taking care. Some one has beautifully said, "A garden is a place of healing for the soul"—

> Yes! in the poor man's garden grow
> Far more than herbs and flowers;
> Kind thought, contentment, peace of mind,
> And joy for weary hours."

The Crop Prospects.

There has been a marked change during the past week, in the tone of the interior papers, with regard to the crop prospects. The gloomy forebodings of a week ago bave generally given way to pleasant anticipations. From almost every section of the vast grain fields of the State, we receive assurances that a bountiful harvest will be reaped in due season; the exceptions are very few and of unimportant extent. The *Bulletin*, of this city, has seen a private letter from a farmer at Rio Vista, where it was last week reported the rust was working serious damage, which says : "I have not heard of a particle of rust within a circuit of twenty miles; and I should be very likely to hear of it if there were any. We have considerable north wind in this vicinity; but thus far no particular damage has been doue. We regard our crops as secure beyond almost any contingency. In the favored sections our wheat will yield forty bushels, and our barley fifty bushels to the acre."

Stock Review.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, June 5, 1869.

Financial.

Our money market is much easier than for some time past. The stringency which bore so heavily upon us is passing away, and we are returning to our accustomed regularity. Deposits in banks and saving and loan societies are more numerous as well as in greater volume. Rates of interest are 1¼@1½ for best commercial paper, for business purposes. Speculative demands are not in favor, and are not as freely supplied as heretofore. Bullion is in fair supply, and gold bars range from 880 to 890, silver bars are quotable from par to one-quarter per cent. premium; currency bills on Atlantic cities pay 35 per cent. premium on gold; coin drafts pay 1⅜ per cent. premium; telegraphic transfers, 2 per cent; sterling exchange, 48¾d; commercial exchange, 49¼d; Mexican dollars command a premium of 5⅜@6⅜ per cent. Gold in New York June 3d, 138¼. Legal tenders, in San Francisco, 73@74.

The cessation of yield from the Gold Hill mines, caused by fire, has reduced our supply of silver bullion as compared with last year's return. It is singular to note the apathy felt for the White Pine region in California as compared with the energy and activity displayed by the business men of Chicago. It is said quite two-thirds of the bullion extracted from those mines goes directly to Chicago. White Pine is admitted the richest silver region ever yet discovered, and we cannot afford to ignore the fact which is too prominent for contradiction. This diversion can only be temporary for the Oriental countries are the great consumers of silver, and the inexorable laws of commerce demand that it shall find its way there by the most direct route and in the shortest time. Neither Chicago nor all the East combined can successfully arrest the silver stream for any continued period.

In reference to the Salt Lake trade it may be justly asserted that the "game will not pay for the candle." Gentiles are only allowed to trade on sufferance, and are heavily taxed by Mormon rulers. Brigham Young and his crew have seized upon all the lands about Ogden, and hold a monopoly of all the business and accommodations at that point. It is high time that the Government should step in and do something to protect the interests of other parties besides the Mormons. Not satisfied with being let alone they are becoming aggressive, and unless the matter be taken vigorously in hand at an early day serious trouble will ensue.

At the close of business on the 31st of May the following was the condition of the City Treasury:

Gold	$220,000 00
Silver	18,000 00
U. S. Notes	8,529 15
Coupons paid but not catered	350 00
Demands on General Fund	19,671 11
Demands on Sinking Fund School Bonds 1860—not entered	1,060 83
Total	$267,580 09
On Special Deposit for Property Sold for Taxes	3,493 90
Loose Coin on Trays	6,441 25
Total	$277,515 24

Real estate transactions on a large scale were effected in the month of May last. *Carter's Circular* records 1,034 sales, representing $4,222,237 against 1,001 sales and $4,173,005 in April. The following table shows the transactions since January 1st, 1869:

Month.	Sales.	Amount.
January	492	$2,716,823
February	816	2,905,807
March	914	4,721,173
April	1,091	4,273,095
May	1,034	4,222,237
First five months 1869	3,057	$14,838,144

The number of mortgages effected in May was 370, representing $1,177,593, and the number of releases was 174 worth $693,367. But for the prevailing stringency during the month it is thought that the number and values of the sales would have been much larger. The southern counties are filling up with a steady and energetic population. Great activity prevails at Los Angeles, while even San Diego has doubled in size within the past year.

The Harbor Commissioners have made the following report of receipts and disbursements for the month of May last:

RECEIPTS.

Vallejo street Wharf	$2,109 50
Pacific street Wharf	1,327 00
Jackson street Wharf	740 00
Washington street Wharf	638 00
Clay street Wharf	1,019 00
Commercial street Wharf	934 50
Market street Wharf	44 50
La Rue's Wharf	382 00
Mission street Wharf	1,761 00
Howard street Wharf	1,084 15
Folsom street Wharf	1,750 00
East st. Water Front (Market to Pacific)	150 00
East st. Water Front (Market to Folsom)	1,240 00
Spear and Bryant streets (Hathaway's)	452 00
Pacific Mail S. S. Co	1,250 00
Dry Dock Co. (Union Lumber Association)	300 00
Main street Wharf	150 00
Front st. (Union to Greenwich streets)	140 00
Stewart street	100 00
Broadway Wharf	2,000 00
Vallejo street Water Front (Davis to Front)	300 00
Battery street (portion of)	150 00
North Point Wharf	540 00
Alameda Ferry Company	100 00
Merchants' Dry Dock Company	75 00
Commissioner's order on State Wharf and Dock Fund	17,671 00
Commissioner's order on Harbor Protection Fund	41,940 89
Channel street	50 00
Second and Berry streets	100 00
Front street Wharf	1,192 50
Total	$79,742 04

DISBURSEMENTS.

Current expenses of Wharves, including salaries of Wharfingers, Collectors, Commissioners and Secretary	$2 865 00
Legal Counsel	250 00
Rent, Printing, Advertising, Stationery, etc	241 20
Urgent repairs, amt. paid for repairs on Wharves	2,908 31
Dredging account, amt. paid W. H. Taylor as per contract	17,671 00
Cleaning Wharves	568 50
State Wharf and Dock Fund, amt. remitted State Treasurer	13,702 81
Sea wall account, amt. paid on account of contract with A. H. Houston and salary of engineer	41,835 22
Total	$79,742 04

The Exports of Treasure from June 1st to date, have been as follows:

June 1—Per Golden City—	
To New York	$ 87,524 81
To England	668,963 54
To France	7,000 00
To Panama	20 000 00
	$ 784,488 35
Previously this year	15,950 199 98
Total since January 1st, 1869	$16,734,679 33
Corresponding period, 1868	16,686,090 04
Increase this year	$ 58,589 29

The duties paid at the Custom House, in this city, from May 28th to date have been as follows:

May 28	$14,134 18
May 29	9,210 35
May 31	4,839 13
Previously in May	546,746 58
Total in May	$575,030 24
June 1	33,271 14
June 2	39,148 31
June 3	11,578 56
In April	534,892 05
In March	260,447 40
In February	602,340 00
In January	532,997 97
Total since January 1st, 1869	$3,129,695 67
Corresponding period, 1868	3,440,645 56
Decrease this year	$310,949 89

The heavy drafts made upon English funds for foreign loans have created some feeling of uneasiness in the London market. The reserve in the Bank of England on the 8th of May was only £6,504,995, against £11,948,107 same time last year, and the stock of bullion has been reduced from £20,402,992 to £16,582,068, a decrease of £3,820,924. Losns to the extent of $250,000,000 have been negotiated, and several other applicants are in the market offering their paper at heavy discount. Spain issued £50,000,000 of bonds to realize $14,000,000 in money. The financial condition of nearly all European Governments is very unsatisfactory. Business in England had revived somewhat, and Russia is making great progress in the construction of railroads.

City Stocks.

During the week under review we note very considerable sales of Spring Valley Water Co. stock at $66@65 75 per share. The usual ½ per cent. dividend will be paid on the 10th inst. A few shares of San Francisco Gas Stock changed hands at $81@80 per share. This company disbursed its usual monthly dividend on the first inst. The Sacramento Gas Co. also paid its usual monthly dividend on the first inst. North Beach and Mission R. R. Co. paid its usual dividend on tbe first; also the Pacific Bank. The Merchants' Mutual Marine Insurance Co. will dishurse its usual monthly dividend on the 10th.

Mining Share Market.

Business at the stock exchange bas been less active during the esrly part of the week than for some time past, but toward the close transactions were more numerous, tbough prices did not show any improvement.

Tbe aggregate sales in tbe San Francisco Stock and Exchange Board, during the month of May, for a series of years past, hsve been as follows:

May, 1864	$1,688,285	May, 1867	$7,651,855
May, 1865	9,865,549	May, 1868	10,162,396
May, 1866	3,052,102	May, 1869	6,961,913

The total sales during the first five months of the past six years have been as follows:

In 1864	$13,524,857	In 1867	$24,249,002
In 1865	14,733,324	In 1868	52,435,009
In 1866	18,868,761	In 1869	35,965,647

Hale & Norcnoss—sold to a considerable extent at a decline. During the week ending May 29th, 1148¼ tons of ore were extracted, nearly all coming from the fourth and fifth stations. During tbo same time, 1549½ tons were delivered to the mills, leaving 947¾ tons on hand. The old shaft is now sunk and retimbered down to the 400 level, and during the present week they will commence opening a station at that level. The drift on the 300 level has reached the vein and developed a fino body of ore. They have raised up 55 feet from the 300 level, and made a connection with the old Santa Fé level, which ventilates the 500 level. On the eigbth floor of the 175 level, developments are reported to look well. In the new mine they have discontinued hoth raisés in the second station until air connection is made with the Chollar-Potosi ground through the south drift on the fifth level, the connections heing nearly made. On the third and fourth levels the breasts are said to look well.

Chollar-Potosi—rose to $470 per share, but at the close shows a large recession. The ore extracted during the week ending May 28th amounted to 1,680 tons, the Blue Wing locality yielding 600 and the New Tunnel 580 tons of the amount. Tbo quantity sent to the reduction mills during the same time aggregated 1,306 tons. The drifts running west in the Blue Wing ground are developing a large amount of ore, and latest advices show a continued improvement. The extreme ends of the New Tunnel stope are improving, and at the north the ore is 28 feet wide, and no wall to the west. In the Grass Valley tunnel there is every evidence of a large body of good milling ore, fair average assays of which are reported to show $100 to tho ton. On thc 28th of May they sent forward $28,858 in hullion. Five mills are now employed hy this company. A dividend of $15 per share was declared on the 3d, payable on the 5th inst.

Gould & Curry—exhihits a slight improvement. They extract about fifty tons of ore from the upper works, assays showing as high as $44 per ton.—Ophir is quite active at some advance. The drift had attained a distance of 324 feet on tbe first inst.—Imperial shows a recession. No change in the south drift. Tbo shaft has been carried to the depth of about 25 feet below the 1,100 level.—Daney levied an assessment of $1 50 per share on the 29th of May.—Julia levied an assessment of fifty cents per share on the 27th of May.

Train has held forth and hss had full sway in San Francisco. He is poohpoohed by the heavy dailies, and by individuals of the heavy sort who are accustomed to hold the reins of the community. But Train is nothing like our theatrical bores, nor what would be called a "fizzle." He has struck on many a thing in which there is more truth than poetry.

Weekly Shareholders' Directory, for Meetings, Assessments and Dividends.

[Compiled for every issuc, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

ASSESSMENTS.

Name, Location, Amount, and Date of Assessment	Day Delinquent.	Day of Sale
Blue Rose, White Pine, May 31, 5c	July 10	August 1
Adriatic, Storey co., April 20, $1	May 22	June 7
Accidental, White Pine, March 30, 25c	April 30	May 30
Belcher, Storey co., Nev., May 4, $5	June 5	June 24
Bowden, White Pine, April 14, 5c	May 29	June 14
Cons Chloride Flat, W. P., May 28, $1	July 7	July 29
Cons. Virginia, White Pine, April 14, $1 50	May 19	June 5
Coney, preferred Stock, div. 2½ per cent	May 10	1869
Confidence, Storey co., Nev., May 4, $10	June 9	June 30
Cherokee Flat, Butte co., May 1, $5	June 3	June 21
Capital, White Pine, April 19, 10c	May 17	May 31
Caynga Chief, White Pine, May 15, 5c	June 17	July 3
Daisy, Lyon co., Nev., May 29, $1 50	July 1	July 19
Daniel Webster, White Pine, May 7, 10c	June 10	June 30
Douglas, White Pine, May 6, 12½c	June 8	June 21
Eules Padre, Mexico, April 20, $	May 31	June 21
Eclipse, White Pine, May 12, 10c	June 17	July 7
Edith, White Pine, May 12, 10c	June 17	July 7
French, White Pine, May 4, 5c	June 7	June 28
Fogus, Amador co., April 23, $5	May 29	June 18
Gold Hill Q., Storey co., May 13, $20	June 18	July 9
Halo & Norcross, div., $5	May 31	1869
Hope Gravel, Nevada co , May 17, $1	June 21	July 12
I.X.L., Alpine co , May 10, $1 50	June 26	July 14
Julia, Storey co., Nev., May 27, 50	June 29	July 17
Letitia & Poole, White Pine, April 23, 20c	May 31	June 24
Lexington, White Pine, May 18, 15c	June 23	July 12
Marlborough, White Pine, May 4, 5c	June 7	June 28
Meeking Bird, White Pine, April 15, 10c	May 20	June 7
Morning Star, Alpine co., May 11	June 21	July 12
Mass-ven, Amador co., May 15, $1	June 24	July 15
Mammoth, White Pine, May 20, 25c	June 26	July 15
Nuestra Senora de Guadalupe, May 12, $2	Del. June 16	
North Star, Nevada co., May 4, $20	July 9	July 30
North Star, White Pine, May 12, 15c	June 13	July 17
North Bloomfield, Nev. co, May 15, $1 50	June 19	July 5
Quail Hill, Calaveras co., April 2, $10	May 11	May 31
Overman, Storey co., Nev., May 15, $20	June 18	July 3
Ophir, Storey co , Nev , May 18, $5	June 21	July 5
Phœnix, White Pine, April 27, 25c	May 27	June 26
Pocatillo, White Pine, May 17, $1	June 24	July 15
Rathbun, White Pine, April 19, $1	May 25	June 14
Siempre Viva, Mex., April 15, $1	May 21	June 7
Silver Moon, White Pine, May 31, 5c	July 10	August 1
San Jacinto Tin, May 27, 50c	June 28	July 13
White Pine Water, Lander co., April 14, $50	May 22	June 19
Virginia Cons., Storey co., April 14, $1 50	May 19	June 5

MEETINGS TO BE HELD

Allison Ranch	Annual Meeting June 14
Ascot	Annual Meeting June 7
Aloha Cons, Storey co , Nev	Annual Meeting June 7
Crown Point, Storey co , Nev	Annual Meeting June 7
Chloride Tunnel, White Pine	Annual Meeting June 11
Empire, White Pine	Annual Meeting June 17
Hermnia	Annual Meeting June 14
Great Union Tunnel	Annual Meeting June 5
Hearst, White Pine	Annual Meeting June 7
Hornet	Annual Meeting June 14
Hidden Treasure, White Pine	Annual Meeting June 15
Ida Belle	Annual Meeting June 7
Mammoth	Annual Meeting June 7
Mazeppa	Annual Meeting June 11
North Star, White Pine	Annual Meeting Jun e 15
San Jacinto, Tin	Annual Meeting June 10
Summit, White Pine	Annual Meeting June 6
Silver Sprout, Inyo co	Annual Me ting June 29
Wheeler	Annual Meeting June 7

LAST DIVIDEND.

Alpha Cons , Storey co., Nev , div. $2	Pay. June 19, 1868
Amador Co., div. $10 per share	Payable May 5, 1869
Bacon, Storey co , Nev., div	Payable June 19, 1868
Chollar Potosi, div. $15	Payable June 3, 1869
Crown Point, dividend, $7.50	Payable Sept. 12 1868
Eureka, div. $10	Payable May 1 , 1869
Empire M. & M., Nev., dividend $6	Payable May 15, 1867
Gould & Curry, div., $7.50	Payable May 15, 1867
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868
Golden Chariot, Idaho, div. $2.50	Payable March 20, 1869
Golden Rule, Tuolumne co, div. 50c	Pay April 7, 1869
Imperial, Storey co., Nev., div	Payable June 20, 1868
Keystone, Sierra co , div. $2	Payable May 6, 1869
Kennuck, div., $20 per share	Payable Jan. 10, 1869
North Star, dividend, $5	Payable Aug. 15, 1868
Occidental, div. $2	Payable March 2, 1869
Pacific Unassessable, div	Payable June 18, 1868
Sand Spring Salt, dividend $1	Payable Jan. 5, 1869
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868
Savage, Virginia, Nev, dividend, $4	Payable May 11, 1869
Sand Springs Salt, Virginia, div., $1	Payable May 5, 1868
Virginia & St. L. Water Co., dividend	Payable April 16, 1869
Yellow Jacket, div., $5	Payable March 15, 1869

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

[S. F. Stock and Exchange Board

Friday Evening, June 4, 1869.

	Bid.	Asked.
Miscellaneous Stocks.		
United States Bonds, 5 20s, 1865, '67, '68	$ —	—
United States Bonds, 5 20s, 1864	—	—
United States Bonds, 6 20s, 1862	85	85
Legal Tender Notes	73½	74
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par & Int.	
San Francisco City Bonds, 6s, 1855	—	10
San Francisco City and County Bonds, 6s, 1858	83	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int	
San Francisco City and Co. Bonds, 7s, 1856	—	91
San Francisco City and Co. Bonds, 7s, 1862	—	91
San Francisco City and Co. Bonds, 7s, 1864	—	91
San Francisco City and Co Bonds, 7s, 1865	—	91
San Francisco City and Co. Judg. Bds. 7s, 1863	—	91
San Francisco City and Co. Judg. Bds, 7s, 1864	—	91
Sacramento City Bonds	30	—
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	55	—
Yuba County Bonds, 8s	85	90
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	55	—
Spring Valley Water Co	65¾	66
State Telegraph Co	25	—
Gas Companies.		
San Francisco Gas Co	80	81
Sacramento Gas Co	52	53
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	74	—
Central Railroad	50	—
North Beach and Mission Railroad	74	—
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	160
Insurance Companies.		
People's Insurance Company	—	100
Firemans' Fund Insurance Co	95	100
Pacific Insurance Co	112	116
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1300	1400
Union Insurance Co	95	100
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	90	91
Mining Stocks—Washoe District.		
Alpha	31	—
Baltimore American	—	—
Belcher	25	27
Bullion, G. H	20	—
Crown Point	65	67
Cole (Va.)	50	60
Confidence	55	60
Consolidated Virginia	20	21
Chollar-Potosi	320	322
Daney	1½	1¾
Exchequer	15	17
Empire Mill and Mining Co	69	70
Gould & Curry	119	—
Gold Hill Quartz	40	50
Hale & Norcross	156	158
Imperial	77	80
Julia	—	—
Justice and Independent	5	5
Kentuck	213	214
Lady Bryan	23	24
American	21	21½
Occidental	20	21
Ophir	25½	26
Overman	89	80
Segregated Belcher	0 ½	11
Savage	1 0 ¾	1 11
Sierra Nevada	40	42
Union	—	—
United States	—	—
Yellow Jacket	72¼	73
Miscellaneous Mining Stocks.		
Amador (California)	275	280
Arcana, White Pine	22	25
Eureka, (California)	—	2 0
Golden Chariot (Idaho)	48	54
Silver Cord (Idaho)	—	—
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocotillo, White Pine	10	—

San Francisco Market Rates.

Wholesale Prices.

Friday, June 4	1869.	
Flour, Extra, ₱ bbl	$4 75	@$5 25
Do. Superfine	4 25	@ 4 50
Corn Meal, ₱ 100 lbs	2 00	@ 2 25
Wheat, ₱ 100 lbs	1 40	@ 1 70
Oats, ₱ 100 lbs	1 40	@ 1 75
Barley, ₱ 100 lbs	1 15	@ 1 33
Beans, ₱ 100 lbs	5 00	@ 7 00
Potatoes, ₱ 100 lbs	5	@ 1 25
Hay, ₱ ton	10 00	@17 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	7	@ 9
Sheep, on foot	2 50	@ 3 00
Hogs, on foot, ₱ lb	5	@ 7
Hogs, dressed, ₱ lb	9	@ 10
Groceries, etc.		
Sugar, crushed, ₱ lb	14	@ 15
Do. China	10	—
Coffee, Costa Rica, ₱ lb	19	@ 20
Do. Rio	—	@ 19
Tea, Japan, ₱ lb	75	@ 90
Do. Green	50	@ 1 25
Hawaiian Rice, ₱ lb	—	10
China Rice, ₱ lb	5	@ 8¾
Coal Oil, ₱ gallon	45	@ 47½
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	35	@ 38½
Isthmus Butter, ₱ lb	32½	@ 35
Cheese, California, ₱ lb	15	@ 16
Eggs, ₱ dozen	35	@ 42½
Lard, ₱ lb	15	@ 16
Ham and Bacon, ₱ lb	14	@ 15
Shoulders, ₱ lb	7	@ 8
Retail Prices.		
Butter, California, fresh, ₱ lb	45	@ 50
do. pickled, ₱ lb	30	—
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	50	@ 55
Lard, ₱ lb	16	@ 18
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	1 00	@ 1 25
Potatoes, ₱ lb	1¾	@ 2
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	8	@ 10
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	10	@ 12
Peaches, dried, ₱ lb	10	@ 12
Oranges, ₱ dozen	50	@ 60
Lemons, ₱ dozen	75	@ 1 00
Chickens, apiece	75	@ 1 00
Turkeys, ₱ lb	30	@ 35
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	18	@ 20

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, June 4, 1869.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.

Scotch and English Pig Iron ₱ ton	$44 00	@$45 00
White Pig ₱ ton	36 00	@ 37 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04½	@ — —
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¾
Sheet, No. 24 to 27	— 05	@ — 6¾

Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	— —	@ — 26
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Composition Nails	— 21	@ — 22
Composition Bolts	— 21	@ — 22

Tin Plates.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 35

Steel.—English Cast Steel, ₱ lb | — — | @ — 15

Quicksilver, ₱ lb	— 55	@ — 60
Lead.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9¼
Zinc.—Sheets, ₱ lb	— 10½	@ — 11
Borax.—California, ₱ lb	— 35	@ — 38

Watering Locomotives upon the Run. *The Engineer* ssys the express trains between London snd Liverpool, 200 miles, will heresfter make the trip in four hours. Water is to be supplied by the water-trough and scoop. The tank on bosrd will hold 400 gallons; sufficient to last 15 miles,—the distance between the troughs. At least five miles perhour is saved by this arrangement in the matter of stoppages, to say nothing of the fact that the great waste of power required to draw the enormous tender which would otherwise be necessary,—is avoided.

Now that this scoop plan is admitted to be a good one, the English journals as usual give an English inventor the credit. The *American Artisan* quietly calls attention to page 708 vol. I of the Patent Office Report for 1854,—where is recorded the fact that Angus W. McDonald, of Virginia, is the man to whom the credit should be given.

Quakings.—The Santa Cruz and Gilroy papers speak of recent earthquakes, that were not felt in these parts; and the tide gauge at Fort Point recorded an earthquake wave on Wednesday, which came we know not whence.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

PENNSYLVANIA.—*Chronicle*, May 22d: The ledge bas been cut through in the north drift. The solid portion of tbe ledge is ten feet wide. In the south drift the ledge has been cut 6½ feet. Here the ore is better, carrying ruby silver. Secretary Johnson has taken one ton of average ore to Nevada to be tested.

GLOBE.—*Miner*, 22d: This tunnel is now in 220 feet and pushing as fast as five men can force it.

MOUNTAIN No. 1.—We hear from this tunnel that the rock is harder than ever. Giant powder is again to be resorted to.

MORNING STAR.—We have been shown a letter contradicting tbe reports in regard to frauds in the management of the company's affairs. The incline is now down 50 feet below the bottom of the main shaft, and a drift commenced to cross cut the lode. Some good ore is found and indications are flattering.

AMADOR COUNTY.

CASCO.—*Ledger*, 29th: The shaft on this mine has reached the depth of 526 feet, with small streaks of quartz coming in. They will commence drifting immediately, north and south.

Dr. Gwin's mill will be ready for operation in about ten days. The mine is located about five miles from Jackson, on the south side of Mokelumne River.

VOLCANO.—We learn that placer and hill mining in and around Volcano, is paying as well this season as at any previous time. The Amador Canal Co. are selling all the water they can run down....The claim at the mouth of Red Gulch, owned by a company of Italians, is averaging about $1,000 per week.

PINE GROVE.—Correspondence of same: The Anaconda is raising some of the richest rock ever taken out of that mine..... The old Sorocco mine has changed bands. The company is incorporated; capital stock $360,000. I understand it is the intention to commence retimbering their shaft preparatory to sinking.

CALAVERAS COUNTY.

PALOMO.—*Chronicle*, 29th: The steam hoisting works are completed, and work has been commenced. The Palomo is now supplied with all the appliances for quartz mining.

EL DORADO COUNTY.

THE INDEPENDENCE.—Placerville *Democrat*, 29th: A fine mill of 12 stamps, run by water, was erected 18 months ago, and the rock has continued to pay handsomely to the present time. Mr. Henson has thoroughly prospected the two lodes claimed, and is now sinking upon one. He exhibited a prospect, about 25 cents in free gold, which be panned out of a few handfuls of decomposed rock from one side of the lode.

NEVADA COUNTY.

UNION HILL.—Grass Valley *National*, 23d: We saw to-day a lump of gold worth over $4,000, from the Union Hill mine. It was the result of ten days' run. Part of the time 15-stamps were employed, and the rest of the time only 10.

CLEAN UP.—Ninety-two loads of rock from the mine of Gregory & Mansau, Osborne Hill, recently crushed, yielded over $4,000.

NOTH STAR.—Same of 25th: About 85 tons of rock from the level, No. 6, west, just crushed, yielded $70 to the ton. Supt. Crossman informs us that the ledge is over three feet thick at this point.

IDAHO.—This mine continues to pan out with the regularity of clock-work. Gold bricks to the value of $6,000 were shipped to San Francisco last night, the result of a two weeks' run.

BOWERY.—At this mine they are sinking an air shaft, to be 80 feet deep, and three in diameter. It will be completed in about three weeks. The ledge is from six inches to a foot in thickness, and looks well.

GREENHORN.—Same of 28th: This ledge, five miles from Grass Valley, was leased by A. S. Cook & Co., in April, for five years. An incline bas been run in on the ledge 60 feet from the surface. They are now drifting and will take out a crushing in a few days. The ledge is from four to five feet thick, well defined blue rock, and shows well in gold and sulphurets. One blast threw out $200 in specimen rock.

CRESCENT.—Active operations were commenced March 1st, by an incline shaft on the ledge 140 feet. From this point a drift has been run south 100 feet. The ledge is eighteen inches thick, and shows well. The company have been using a whim thus far, but it is their intention to put in a 6-inch pump, and an engine of sufficient power to prospect to a depth of 400 feet.

JOHN BRIGHT.—Same, 29th: The mine near Ione has been prospected to a depth of only about 75 feet. From a crushing of 80 tons just made, a yield of over $1,900 was the result. The ledge will average a foot in thickness.

CLEAN-UP.—The claims of Cal. Kirtley, on Diamond Creek, were cleaned up on Wednesday, after a run of nine days, and yielded $590. He had three men employed, and the water bill during the run was $132.

EMPIRE.—*Union*, 28th: There are some twenty hands at work at the mine, and matters are progressing favorably. The miners use only the single hand drill and Giant powder, and each man takes up one ton and a half of quartz per day.

EMPIRE.—29th: Each stope has a foreman, who charges and fires the holes, and who goes in first after the shot is fired. The men who drill, do not see, handle, or smell the powder. Capt. Lee has tried to get his full complement of miners, but so far has not succeeded. There are several young men employed who have never been considered miners. They went into the drifts just to show that they would go where somebody else said they should not. Aaron Burr, with a single hand drill, made nine and a half feet in hard rock; and Joe Lougee, aged 17, put down thirty inches in two hours and a half. This would have been quick work for two men with the old style of drill.

MINING.—Same of 30th: At the Eureka and Idaho work is being prosecuted as usual....The Empire has not been able to secure a full complement of hands, but the men do very well with single-hand drills and giant powder. On Friday last the 18 men took out over a ton of quartz to the man....At the North Star matters remain as before the strike. A few men have applied to work, but always wanted the new powder ruled out. The members of the Miners' Union seem determined not to work unless they can dictate on the powder question....A. J. Cook & Co., on Greenhorn Creek, have taken out some fine rock. We saw specimens filled with beautiful gold. The ledge is large, and a crushing is now going on at Laton's mill....The Wisconsin mine is yielding fine looking rock.

SAN JUAN.—*Transcript*, May 27th: The Eureka Lake Ditch Co. are washing on San Juan Hill. The result of said labor is, as a general thing, kept secret, but its claims are said to be paying well. Most of our claims are idle, their owners waiting for reduced rates of water. The Nort Bloomfield Co. is agitating the question whether to extend its ditch to this hill.

JONES' BAR.—Same of 20th: The cement mill removed from You Bet, by Fitzsimmons & Co., is completed. The storm increased the volume of water to such an extent as to interfere with taking out the cement. It is thought that the water will subside sufficiently to permit work to be commenced in a week or ten days.

STRUCK IT RICH.—Same of 30th: We are informed that the Illinois and Wisconsin have struck very rich ore. A small piece of rock taken out on Friday contained about $10 worth of gold. The specimen was very handsome, consisting of crystals of quartz and gold, with a very pretty piece of gold leaf in it.

RICH ROCK.—*Gazette*, 25th: Rich specimens of gold quartz have recently been taken from the claims of the West Idaho Company, on Slate Creek, an extension of the Eureka.

EUREKA MINE.—*Gazette*, June 1st: The mill was cleaned up Saturday, after six days' run, and yielded 1,936 ounces of amalgam, which will retort $6.50 an ounce. Four tons of sulphurets were saved during the run, worth $800. The company have 160 men employed in the mill and mine, and the pay roll for May amounts to $17,000.

IDAHO.—We saw two bricks yesterday worth $13,300—the result of one week's work of the Idaho, including the cleaning of the battery.

THE ROANNAISE.—We visited this mine yesterday, and were informed by the Superintendent, Wm. Watt, that the company are running a tunnel from the west end of the Eureka ground into the claim. They have completed 150 feet, and have yet 315 feet to run, which will require about three months' time.

PLUMAS COUNTY.

EAST BRANCH.—Correspondence of Quincy *National*, May 22d: There will be more mining in this vicinity this season than for years.....Hallsted & Co. are working some of the best ground they ever had. ....Sheiser & Co. have a good head of water, and will make a handsome clean-up. ....Hallsted & Bigarms have good prospects....Cole, Wright & Co. are still drifting in 12-Mile Bar Hill....Cole & Knucky are making preparations to work the river claim which they bought from Mr. Ward last summer.....Mr. Ward intends flumiug the river in two places this season, and is making extensive preparations. One flume will be opposite Hardsock Point. The other about a mile below 12-Mile Bar..... A very rich strata of gravel has been found in the lower part of 12-Mile Bar by C. W. Hyde....Johnson, Mercer & Co. are waiting for the river to fall. The company have been at a large expense in cutting a bedrock race....The water stills bold out in Rich Gulch, though the bead is getting small. McBeth & McNealy have had a longer run than they anticipated. Judging from the prospects they will make a good clean up; as well as Captain Corser in the claim below.....An undertaking long talked of has been commenced by Covolt & Co., the cutting of a bedrock flume in Rich Gulch.

SAN DIEGO COUNTY.

Incumba Valley correspondence of the *Union*, March 26th: Mr. Walker, of San Diego, has been prospecting with very flattering success; as he discovered silver mines six or seven months since, and has recently been investigating the same. There are several ledges, viz: the Rattlesnake, Ophelia, Zach Taylor, Eliza and Pocahontas. All of these we believe will pay well, as the indications are of the very best.

SISKIYOU COUNTY.

COTTONWOOD QUARTZ.—Yreka *Union*, May 29th: Work on the Norfolk and Lodi ledges by the Merritt company is still being prosecuted with the same gratifying results as heretofore. Many other claims in the neighborhood are being taken up and work commenced.

QUARTZ MINERS WANTED.—At present the demand in this vicinity for experienced quartz miners is greatly in excess of the supply.

TRINITY COUNTY.

GOOD CLAIM.—*Journal*, 29th: A nugget weighing eight ounces was found by Messrs. Ritter & Dack, on Little Creek, on the 21st. The yield from this claim has increased since the commencement of the season, from six to fifteen ounces per week.

Douglas City letter: The mining season is about finished, so far as sluicing is concerned; and in a week or two most of the companies will commence on the bedrock. Generally speaking, it has been a favorable season for so short a one.

Junction City letter: Sturdivant & Whitmore have closed a bargain with the Sheridan Bros., for their claims, etc., at Arkansas dam, paying $5,000, to take possession as soon as the claim is cleaned up. S. & W. are getting out timbers and lumber with which to erect an extensive hydraulic. Jacob Hager & Co. are piping at a lively rate, with every prospect of making big money. On Oregon Gulch the miners are all in good spirits, and without doubt all doing well. On the other side of the river Grover & Co., Peters & Weise, Jacobs & Lorenz, and, in fact, all the companies are still at work, although water is getting quite slack. Most of them will commence cleaning up this week. At Park's Bar prospects are flattering. H. C. Wilt is pushing things, and the hydraulic is kept running night and day. He has been to an expense of $9,000 in rigging the claim this year, but the yield will be nearly $20,000.

YUBA COUNTY.

U. S. GRANT MINING CO.—*Appeal*, 27th: The Jefferson mill and machinery is being removed from Brown's Valley to the site of the Grant mine, a mile or two east of the valley.

ARIZONA.

HASSAYAMPA PLACERS.—Prescott *Miner*, May 8th: The diggings on the upper Hassayampa continue to pay. Every miner on the creek was making from $4 to $10 per day. Some 20 Mexicans are at work in the gulches. Saturday, one of them found a piece weighing $20.

WALNUT GROVE.—Mr. Lambertson was getting ready to work Mammoth ore in his arastra....Mr. Cullember intends soon to commence work upon the Josephine, a rich gold ledge.

BLACK CANON.—Tom Bodkin and another man arrived last week with considerable dust. They talk of returning....The Mexicans in the gulches adjacent to the Chase mine are doing well.

THE STERLING.—The work of tearing out the rotten timbers in the battery bed and replacing them with new ones is almost completed, and everything is in readiness for the new machinery, which is expected next week.

THE CHASE.—Same of 13th: A. O. Noyes and George Lount are experimenting with the Paul & Wood process.

Hinkle & Baker are sinking on their lode, near the Chase, and getting fine looking ore.

WALKER'S DISTRICT.—The Eureka mill was running, and Mr. Graves was roasting the crushed ore in his pipes. The ore yielded twice as much gold as while raw. ....Bowers & Bean are preparing to put a large flume in the bed of the creek. They have located two miles of the bed and banks.

Mohave City correspondence of *Herald*: Stephen Otis is working the Ticbatticup mine in El Dorado Cañon. He has about 20 hands employed, and a large amount of ore at the mill, which will pay $100 per ton. The mill has been stopped for repairs.

Wade & Co's mill received a new boiler a few days ago, and will now soon be started again, to work ore from the Mitchell lode, in the San Francisco District.

COLORADO.

BULLION SHIPMENT FOR APRIL.—Georgetown *Miner*, May 13th: Huepeden & Co., 4,441½ ounces; value in currency $5,101.14. Stewart's Reduction Works, 5,544 ounces; value in currency $6,384. Brown Co., 560 pounds; value in currency $11,000. Total, $22,485.14.

TERRIBLE.—We have paid a visit to the mine. The ledge is a large, well-defined, true fissure vein. In all the levels we saw rich ore, sparkling with brittle ruby and native silver. The tunnel, 540 feet below the shaft house, is driven 60 feet. It will strike the vein 290 feet from surface. We saw at the mine ten tons of first-class ore, worth $500 per ton, and 1,000 tons second class ore worth $80 per ton. Both tunnel and mine are worked night and day.

CLIFF.—Same of 20th: The main shaft is 100 feet deep. A level has been driven 120 feet on the vein. At the end of this a cross cut has been run showing the ledge 21 feet wide between permanent walls. The ore vein on the north wall is two feet wide; eight tons of first class ore at the mine, worth $475 per ton in coin, 100 tons of second class ore worth $75 per ton.

LAUREL.—A new discovery by Kennedy & Hill, on Sherman Mountain. The shaft is 14 feet deep, showing a crevice four feet wide between smooth walls. Select ore assays $410 per ton in coin.

GRIFFITH.—The main shaft has reached 127 feet; the air shaft a depth of 65 feet; the first level has been driven east 118 feet. Work pushed vigorously. Six hundred tons first class ore already raised; worth $200 per ton in currency.

STRIKE IN THE BROWN MOUNTAIN.—The Colorado Co. struck the lode 36 feet in. They have passed through four feet of crevice matter, and no north wall yet can be seen. Hon. Carver J. Goss laid on our table several rich specimens. There was no indication of this lode on the surface.

NI-WOT MINE.—Boulder *Pioneer* letter, May 19th: Drifts are being extended on the lode, east and west, and "backs" opening for stoping. The vein is a new one, probably the main one of the lode, and in a short time sufficient ground will be opened to keep the fifty stamps constantly going.

NEW YORK MILL.—Central City *Herald*, May 12th: Twenty new stamps have been put up, and the frame work of 20 more rebuilt. The mill has now 55 stamps, and can crush from five to six cords, or about 45 tons of ore per day. The engine has been taken out and water-power used.

Terrell & Co., on South Clear Creek, just below the old Freas claim, took out ten ounces of gold last week; only two men working.

Woodbury & Co. cleaned up 32 ounces of gold from one cord and a quarter of German ore.

The Consolidated Gregory mill has made a forty-eight hour run on ore from the Fork's lode, and cleaned up ten pounds of amalgam, from the batteries alone. Only 25 stamps were running.

IDAHO.

GOOD CLEAN UPS.—Idaho City *World*, May 20th: During the week, Noble, Elkin, Saunders and Wood have made three clean-ups, with an aggregate product of about $11,000. Two were in the claim on Buena Vista Bar; from these the product was above $6,000. The other was in the claim on the hill; the product was between $4,000 and $5,000. There are two gangs of five men each in the claim, who run it day and night without cessation. The company are also running three or four other hydraulic claims along Bonum Hill. They have taken out about $40,000 since March.

COSMOS MINE.—Owyhee *Avalanche*, 29th: This mill is undergoing thorough repairs. The Superintendent informs us that he will be ready to start about the 20th of next month. He intends to commence on Silver Cord ore.

NEVADA.

REESE RIVER.

Hot Springs.—An Anrora letter of May 23d, to the Sacramento *Union*, says: Over 100 pounds of bullion were brought in from Hot Springs. Thomas Shaw and associates sold the Gold Mountain mine, about 20 miles southeast from Palmetto, to parties in San Francisco, for $32,500.

Specimens of rich rock were brought in here last week from the Dunderberg ledge, in Castle Peak District. The Company are running a tunnel to strike the ledge at the depth of 200 feet. The tunnel is now in over 500 feet, and they are expecting to strike the ledge every day.

WASHOE.

[The latest items of news and information from this district will be found on another page.]

Hale & Norcross.—*Enterprise*, 25th: This mine is looking particularly fine. A number of new and excellent bodies of ore have been found both in the old and new works. Some of these seem to have been strangely overlooked during former workings.

Started Up.—May 27th: Evans' mill, in seven-mile Cañon, started up last Wednesday on Sacramento ore.

Occidental.—The new tunnel is progressing. The rock is softer. There is a slight increase of water. The tunnel will tap the vein 400 feet below the present lowest workings, following the dip, and will be a perpendicular depth of 300 feet below the present lower level.

Hale & Norcross.—Same of 30th: From the 1,000 foot level they are running a drift to connect with a similar drift that is being driven towards them from the Chollar-Potosi. The ends of the drifts are now so near to each other that the workmen in each can hear the sound of the picks in the other.

Bullion Shipments.—The shipments of bullion for the week ending Saturday, May 29, were as follows: From Wells, Fargo & Co.'s office in Virginia, 4,523 pounds, valued at $118,790.35; from the office of the Pacific Union Express company in Virginia, 78 bars, weighing 4,051 pounds, valued at 110,795,90—making a total of 8,574 pounds, valued at $219,586.25.

Pappoose Mill.—A battery of four stamps is about to be put up. Heretofore it has been running on concentrated tailings, using six pans and working about 11 tons per day. As soon as the battery is up, they will commence reducing ore.

Gould & Curry.—All four of the compartments of the shaft are now being timbered to the bottom.

Bullion Mine.—The Bullion Mining Company have commenced drifting eastward from the 1,400 foot level. The ground is found to be so dry at this great depth as to be almost dusty. The blower furnishes a plentiful supply of fresh air. The drift is now in 30 feet.

Justice Independent.—This company have now drained their main shaft, and are sinking it to a greater depth. It will be put down 100 feet more before drifting. The rock is quite soft, and it is thought that this depth will be attained within the next 30 days.

Virginia Consolidated.—The new shaft has been sunk as far as practicable by hand, and temporary steam hoisting apparatus will shortly be put in operation.

Gold Hill.—*News*, 26th: A full force of hands is being worked on the Yellow Jacket mine, and the ore is tumbling out at a lively rate. The air is good throughout the mine. The Kentuck yields ore enough to run the Sunderland mill, from its upper levels. The lower levels are closed in order to hem the fire, which exists at the Crown Point line, in the east ledge. Drifting east at the 1,000 and 1,100 foot levels of the Crown Point, in order to strike the ledge and work beneath and out of the way of the fire, is being prosecuted. All the stations above there are also blocked up securely, in order to smother the fire, or let it burn itself out, just as it plenses.

WHITE PINE.

Our agent, W. H. M., sends us the following,—in continuation of his notes given in our last week's issue:

The Base Metal Range.—There are several promising mines still worked at Camp Babylon, among which are the Northern Light, Savage, and Homeward Bent. At the two last they are taking out very good ore. The Homeward Bent has had some eight or ten tons worked, which are said to have gone as high as $150 to the ton—without roasting.

White Pine Mountain.—The ascent is very precipitous; but when once on the summit, the view is delightful. We look down on the country from an elevation of 11,000 feet. The base of the mountain covers an area of about eight by ten miles of country. Some three or four sawmills can be seen at work; the mountain is quite heavily timbered. The cañon leading toward the summit is filled with prospectors. On the west side is the Monte Cristo and Cañon mills. Some of the earlier located mines have been jumped, because the two days' work required for the second year has not been done upon them. Some of the lodes carry very good base metal ore.

The first mines were located in Mohawk Cañon. The Casserly ledge, a recent location, shows a 3-foot vein of ore which will assay about $70. Several other promising locations have also recently been made in this cañon. It is the impression of many good judges that the mines here, (being of the base metal charactor) will prove more lasting and valuable than most others in this vicinity. There is talk of a 20-stamp mill being put up here. There are already some ten or twelve mines here which it is thought will yield all the way from fair milling ore up to $250 per ton in silver—oxide from copper and lead.

The weather here has been warm and pleasant for the past three weeks, the roads are in fair condition, and the mails arrive regularly.

Items of Progress.—*News*, 22d: The Chloride Consolidated is shipping to mill daily about 40 tons of ore of a remarkably high grade....A fine deposit of ore has been developed in the Bourbon at a depth of 20 feet....26th: Twenty tons shipped daily from the Nevada for milling ...The Rattler is incorporated and work progressing. At a depth of 44 feet the shaft was driven into a body of very fine ore, which has been already breasted a distance of nine feet from the shaft, and neither top, bottom nor side found to the mass, which is all high-grade ore...."In the Autumn mine, a pit or incline has been sunk to a depth of about 20 feet, and from 12 to 15 feet in width. Every pound of ore taken from this, from the top down, yielded, mill process, $350 per ton. Descending into the large chamber, we were absolutely bewildered at the wealth on all sides. Chloride and horn silver crop out profusely in almost every part."....28th: Aurora Consolidated is shipping daily to McCone & Dunn's mill 15 tons of ore, estimated to be worth $200 per ton....The Stonewall shaft of the Cbloride Consolidated Co. is 180 feet deep. This is the deepest on Chloride Flat. Good ore is met with at this depth, but not in as large quantities as nearer the surface....We learn that the Earl Co. yesterday sold their mine to San Francisco capitalists for $30,000. This company but recently struck ore in paying quantities.

Bullion.—*News*, 25th: The Agency of the Bank of California shipped yesterday between $19,000 and $20,000 in bullion, from ore of the Chloride Consolidated Co. ....26th: Wells, Fargo & Co. shipped from the office in Hamilton yesterday 10 bars, weighing 895 pounds, and valued at $22,568.40....28th: Wells, Fargo & Co. yesterday shipped one bar of bullion, valued at $1,221, the yield of five tons of ore from the Industry mine on Pogonip Flat.

Mills.—*News*, 25th: The prospects render it almost certain that we will have 138 stamps in operation by the 8th of July or sooner. If we can turn out $1,500,000 a year with 18 stamps, what can we give from 138?....The splendid 20-stamp mill (formerly Big Smoky) of the Treasure Hill Silver Mining and Milling Co., which has been put up at the lower end of Hamilton, was started up yesterday....The Monte Cristo mill is to be overhauled, and will soon be ready for work....28th: We learn that the owners of the California mine, southeast of Shermantown, are having a 30-stamp mill, with all the modern improvements, manufactured in San Francisco.

Outside Districts.—Patterson.—*News*, 22d: Jas. Hutchings writes us from Montezuma: "It is my candid opinion, backed up by ten years experience in silver mining, that this is the richest and perhaps the most extensive mineral bearing district in the State of Nevada. There is more rock in sight that will yield by mill process not less than $100 per ton in this district than has been produced by the Comstock during the last two years. Yet we are entirely powerless, for the simple reason that we have no mills. At present a great many of the boys are making good wages by roasting the ore for the silver which it contains....The Great Eastern ledge is over 12 feet wide, and has been stripped a distance of 65 feet, and shows Chloride in every part....25th: Langley, Cole & Co. are to have a first-class mill in Pinto District at once....We learn of a very rich strike which has been made in the mountains eastward of Steptoe Valley. The ledges are said to be of good size, and assays have been made indicating an average yield of $700....26th: A new district has been organized 100 miles south of Pahranagat, and within 15 miles of the Colorado River. The ledges are said to be numerous, well defined, and from five to eight feet in width. Assays from samples of ore have been obtained indicating an average value of $500 per ton....The Tem Piute District lies 30 miles northwest from Pahranagat. Samples of ore inspected contain extraordinary quantities of chloride and bromide.

The *News* gives an estimate, which sums up as follows: The various mines of White Pine District now yield 150 tons of ore daily, worth, in bullion, $22,500. The whole number of stamps now running is 91, and by June 1st there will be 130. The average bullion yield of this district from July to November inclusive will be about $897,000 per month.

OREGON.

Dillon & Bowden.—Jacksonville *Sentinel*, May 22d: Work is still going on in the shaft. They are now down on the lead about 90 feet, and the rock prospects well. They will commence crushing about the middle of next month.

UTAH.

Good Coal.—Virginia *Enterprise*, 29th May: We were yesterday shown a chunk of coal from the Diamond Coal Co's mine, located east of Rock Springs Station, and about 180 miles east of Elko. F. W. May assured us that there was any quantity of it being taken out. The coal is very bright and solid, and burns readily. We understand that some of it is being shipped to Omaha.

WASHINGTON.

The Moose Creek Mines.—Walla Walla *Statesman*, 14th: A company of miners, 14 in number, left Walla Walla in the early part of the week, bound for the Moose Creek mines. The reports are highly favorable, and Moose Creek promises to be one of the most important districts for mining in the northern country.

Utilizing Sensitive Flames.

The researches of Tyndall upon sensitive flames are now pretty well known to the public. The most convenient mode of producing them has been pointed out by Weinhold, and their utilization is now being carefully considered. That they *will* be made useful, is quite certain. They may undoubtedly be applied, most advantageously, to the tuning of instruments; which, when finally accomplished, will enable almost any one, by their use, to attain absolute correctness. The faintest variation in a note it is known will affect a flame, and thus make itself apparent to the eye sooner and more surely than any discord could be detected by the ear. Experiments have fully shown that flames can be devised to correspond with every note.

The possibility has also been suggested of placing behind a row of actinic flames, sensitized paper, on which the sounds of the voice might be photographed, and in this manner obtain a perfect phonographic report of a speech. Experiments already made lead to the inference that a flame may be made to correspond to every letter in the alphabet. Some of the letters, as well as the notes in music, have already their well-known representative sensative flames. There are no doubt other possible modes of utilization to which this novel property in flames may be applied.

True, none of these inventions have as yet been worked out; but their final accomplishment is even less wonderful and less improbable, in our present state of knowledge, than was such a thing as photography less than forty years ago. A new field is here presented for inventors for the achievement of both fame and fortune.

Acetate of Lead for Cleaning Photographic Plates.—Mr. Newton uses a washing solution made with two grains acetate of lead to one ounce of pure water, for cleaning plates fixed with hyposulphite of soda. It not only prevents staining, but improves the tone of the picture.

Quarterly and Semi-Annual Bullion Product.

The following figures are taken from the last quarterly returns of the Assessor of Lander County, Nevada, as given in the *Reveille*, May 13th. Though incomplete, they are the most reliable figures that we have, and are therefore of great importance:

Mine or Company.	*Tons.*	*Lbs.*	*Av. per ton.*
Blue Jacket	2	313	$120 76
Argenta	8	810	224 77
Esther	4	670	388 94
Magnolia	10	1792	243 50
Fortuna	1	100	483 17
Harding and Dickman	10	1610	400 65
Lane and Fuller	179	656	193 42
Manhattan Co	192	1790	96 91
" "	9	120	328 56
Monroe Co. (Eureka)	8	1204	175 28
Maggie	1	684	101 75
Florida	6	554	352 13
Whitlatch Yankee Blade	3	1680	521 92
Wilbur	1	1912	420 54
Russell and Givens	7	684	132 57
Silver Champion	3	964	106 61
South American	9	658	134 17
Timoke	1	1256	230 55
Wisner	15	1114	184 06
St. Louis (Cortez)	5	184	430 58
WHITE PINE.			
Bates and Jacobs	1	1700	299 18
Eberhardt	480	—	237 44
Keystone, 1st class	14	491	2454 20
2d class	123	1646	153 55
Mazeppa	11	1312	37 37
Noonday	12	900	121 84

Whole number of tons of ore returned 1,201, against 2,687 for the quarter ending December, 1868. Total value, $265,374; average value of ore per ton, $220 90. The product is more meager than during any quarter for a couple of years.

The product from White Pine, as far as obtainable, for the quarter ending December 31, 1868, was $584,288; for the quarter ending March 31, 1869—Oasis mill $100,000; Moore & Baker's mill, $21,618 74; total product for the half year, $795,986 74. In the last quarter of last year the Eberhardt produced 477 tons, which gave the splendid average of $774 per ton in currency; the Keystone, 80 tons, which averaged $554 per ton; the Hidden Treasure, 81 tons, which averaged $337 per ton; the Robert Emmet, 172 tons, which averaged $357 77 per ton; the Stonewall, 68 tons, which averaged $434 06 per ton; and the Aurora South, 378 tons, which averaged $145 09 per ton. Against these figures the Eberhardt produced during the first quarter of this year 480 tons, averaging $237 44 in gold per ton; the Keystone, first class, 14 tons, yielding the magnificent average of $2,454 20 per ton; and 123¾ tons, averaging only $153 55 per ton, showing in general a falling off. The other mines enumerated—the Hidden Treasure, Stonewall, Robert Emmet, and Aurora South—do not appear on the Assessor's books for the last quarter.

From another source of information the operations of the Oasis Mill, working Eberhardt ores, we have the following, from the White Pine *News* of April 7th, as the product during the months of October, November, and December, 1868, and January and February, 1869:

October	$60,918 94
November	103,704 54
December	66,907 45
January	43,489 76
February	107,067 65
Total	$382,038 34

That is an average of $76,420 per month, or $917,040 per year.

The same Assessor's returns assume an unaccountably different look in tabulations given by the Inland *Empire*. From these it appears that the Eberhardt reduced 480 tons of ore, which produced $187,200, or an average of $390 (instead of $237 44) per ton; the Keystone 179 tons, producing $34,368, or $192 per ton, and the Hidden Treasure 8½ tons, producing $880, or $100 per ton.

China.

The China *Mail* of March 9th, says there is a disposition among foreigners having an eye to gold mining, to go ahead, notwithstanding the interdiction of the Chinese Government, and the notices in accordance therewith of Alcock and the other foreign ministers. Machinery for "plant," in the Shautung province, is spoken of; but this does not probably amount to much. No orders for machinery have been received in San Francisco that we are aware of. It is said that the Chinese themselves acknowledge Mr. Alcock's dictum to have been a blunder. Well-informed miners and prospectors confidently entertain the idea that the consent of the local authorities is to be had, *sub rosa*, if not otherwise, since "anything can be bought in China."

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

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CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.
GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.
DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.
CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.
OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.
LONDON.—Geo. Street, 30 Cornhill, E. C.
Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, June 5, 1869.

Notices to Correspondents.

FIREMAN, Gold Hill.—The quantity of water contained in fuel greatly affects the amount of heat which it may evolve, much more in fact than is commonly understood in practice. It is well known that the evaporation of liquids, or their conversion into steam, consumes and renders latent a great amount of caloric. When green wood, or wet coals, are added to the fire, they abstract from it, by degrees, a portion of heat sufficient to convert the sap or moisture into steam, before they become a source of heat by their combustion. So long as any considerable part of such fluids remain combustion proceeds slowly, the fire is dull, affording only a feeble heat. Green wood not unfrequently contains one-third of its weight of watery matter. Nothing is further from true economy than burning green wood, or wet coal. Wood dried under cover is found to be superior as fuel to wood dried in the open air.

NUMISMATIST, San Francisco.—The penny is the twelfth part of an English shilling. Camden supposed the name was derived from the Latin word *pecunia*, money. The ancient English penny, penig, or pening, was the first silver coin struck in England, and the only one current during Saxon rule. Up to the reign of Edward I, the peuny was struck with a cross so deeply indented across the face, that it could easily be broken, and separated into two parts, and so called *half-pennies;* or into four, thence called *fourthings*, or farthings. The prince named coined the penny without indenture, and in lieu of such, first coined round halfpence and farthiugs. At the same time he ordered that the silver penny should weigh thirty-two grains of wheat taken from the middle of the ear, and twenty such pennies were to weigh one ounce.

INVENTOR.—Our impression is that the Corps Legislatif of France, some three or four years since, offered a prize of $10,000 to be awarded to any person who should, within five years, devise any means by which the voltaic pile may be economically made applicable to industry, as a source of heat, as an illuminating agent, or practically useful in mechanics, medicine or industrial chemistry. A proportionate amount is to be paid for either one of them. If the amount is not claimed within the time named, the Emperor is expected to issue the decree for a new period of five years.

FOR CHICAGO.—N. W. Spaulding & Bros. recently forwarded several thousand illustrated pamphlets from this city to their branch house, No. 41 South Channel street, Chicago. The engravings for these circulars, made in San Francisco, are superior to any we have ever noticed from the Northwestern States.

PLATINUM.—The largest nugget of platinum ever found weighs 21 pounds troy. It came from the Ural Mountains, and is in the Demidoff cabinet.

Iron Manufactures—Work at the Foundries.

Work at the foundries in San Francisco continues noisy and appareutly nearly as active as ever, yet there is noticeable an absence of that high-pressure force which pervades the sooty regions of the iron-workers beyond Market street, in a thoroughly busy season. In fact, matters there are dull; or, to speak the truth more exactly, very dull. But when the foundries are dull, it is well known that enterprise in everything new must be also at a halt. Such appears to be the fact, for the time being. The continental railroad is surely not to blame—or we might undo the iron band that binds us to the world. White Pine cannot be at fault, for though it has brought few orders for machinery, and has taken much attention and capital away from the usual regular manufacturing and engineering developments, its mining is *bona fide* and its ore deposits are real. Nor is it in the weather; for that is prime. Witness the ripe strawberries and cherries. We have not watched the financial barometer, and are not a financial meteorologist, or we might have something further to say on this subject.

It is only two or three months ago that we were in the hight of the velocipede fever. The Golden State Iron Works turned them out by scores, if not by hundreds, and they went everywhere. Now it is all of the past; everybody is tired of them, and we almost find it in our heart to say a word in favor of this flat-sided hobby-horse of the day. Mr. Knox informs us that the demand for the article has fallen off greatly. The Pavilion is found quite deserted. Yet we recall with pleasure the queer scene from the gallery, the busy crawlings of a myriad of things more indescribable and wonderful than the oddities of the bug season, around the fountain and over the bridge, that reminded one of an ant-hill. The French velocipede is discarded, but there are several American inventions that may yet prove of real practical value.

In front of the Golden State Iron Works there stands, nearly completed, a road steamer, the first that has been constructed in California, with the exception of the Standish steam plow motor. It is modeled after one of the English roadsters, and is intended for harvesting, for a gentleman in Napa Valley. It will be tried in about a week. Numerous Eastern harvesting locomotives to be drawn by horses—Hoadley's chiefly—made for Treadwell, are seen standing in front of the iron foundries, where they have been put together.

A locomotive and other paraphernalia for the City Grading Co. are in progress at the Pacific Iron Works, Goddard & Co., including half a dozen large iron rollers, etc. An important house job also in hand is the iron work for Friedlauder's new building at the northeast corner of California and Sansome streets, opposite the Bank of California.

The Vulcan Foundry is launching several new and important enterprises: A Massachusetts patent wood-preserving process, by the use of distilled coal oil, for J. C. Wood's works at the foot of King street. The apparatus consists of a collossal hollow iron ball, of about ten feet diameter, cast in two halves, for distilling the oil; and a sheet iron tank about 20x10x10, into which loaded cars are shoved, and in which the wood is impregnated by atmospheric exhaustion. This is the third tank made for this company, which has all the work it can do, such, as for example, the paving of new Montgomery street. Also a sulphur retort of about 8x4x2 in dimensions, for Gen. Hewston, to be used in a new sulphur-producing enterprise near Napa Lake. Also a large and complete piece of machinery which is to do duty as a pump in the San Francisco Sugar Refinery. Quite a number of Hepburn's pans, and also of Hess' grinders, all of large size, are completed at the works. Mr. Hepburn, we understand, claims to have reduced very materially the cost of crushing and amalgamating, by using, after reduction of the rock to a certain fineness, his device, with loose disks of iron in the amalgamating pan.

The Fulton Foundry, Hinckley & Co., are fitting out a new sugar house, the fourth started in this city, for Denoon & Co., with engines, pumps, centrifugals, charcoal kilns, etc.; also shipping and constructing more new saw mills, one of which is just ready to be shipped to White Pine, for Francis Smith. An engine of 14x24, for R. L. Ogden, is also destined for White Pine, to be worked in connection with some patent quartz crusher. Another sawmill is being built for Hayward & Harmon, lumber dealers. A few days ago a sawmill was shipped to Santa Cruz for Albert Jones, and an additional one is ordered for the same locality.

At the Ætna Foundry, Hanscom & Co., there is a new Tyler turbine for the Mariposa Estate; a number of new Carvalho super-heaters, one of extraordinarily large size; and of especial interest is the Taylor Oil Burner, which has been in operation under the boiler of the establishment for five weeks, with perfect success, as it appears. This oil burner can be used in an ordinary coal furnace, and oil, wood or coal may be used alternately without trouble. The invention is very simple, and has been tested, being about four years old. One pound of oil is used in place of three to three and a half of coal. Its cost is about $20 for 20-horse power; weight, about 150 pounds. Mr. T. W. Burns is introducing it free of cost to parties on agreement that he be allowed the amount of reduction in the reckoning of fuel.

At the Miners' Foundry, Howland, Angel & Co. have finished some fine interior State Capitol work; a new Howland rotary valve engine; a mold for the Ransome artificial grindstones, for Mr. Steen's establishment on Turk street; another of Paul's dry amalgamators; a locomotive engine for the Long Bridge and South San Francisco Railroad Co., to occupy one end of a passenger car and move along two or three extra cars at the same time; and a new barrel pulverizer of peculiar original construction—the invention of Mr. Collins, of Virginia City.

At the Santa Cruz Foundry, the *Sentinel* of May 29th reports a new 80-horse power engine, with 24-foot tubular boilers, in hand for Kenyon & Co's saw mill, to cost about $5,000, having been planned by Martin & Caudle, the master mechanics. This foundry, we are told, is fitted up very creditably, and is capable of building any machinery of ordinary size that can be needed in that prosperous manufacturing horizon, by the ocean's sands.

NEW BOATS FOR THE SACRAMENTO.—The lively competition of the Vallejo route for up river trade, is giving the public low fares and a very reasonable freight tariff. The Steam Navigation Company are making arrangements for two new boats, for day trips, with passengers and light freight. These boats are to be 260 feet long; will draw only two feet of water, and will be provided with large wheels and powerful engines, with which it is expected to make twenty-five miles an hour, thus reducing the trip to as short a time as it can be made by the Vallejo route, without the trouble and inconvenience of changing. Low fares, the overland railroad, and the increase of population in the interior, must soon create an enormous amount of travel between this city and the State Capital. The Sacramento will soon become the Hudson River of California.

CONTINENTAL Life Insurance Company, 203 Montgomery street, corner of Pine.

Pacific Medical and Surgical Journal—A Suggestion.

We should have before acknowledged the receipt of the May number of this periodical from the publishers, H. H. Bancroft & Co. It contains several interesting original articles. Among them is one from the pen of Dr. Kinkler, of Placerville, upon the curable nature of cancerons affections. Another from Dr. Folsom, of Mendocino, detailing a case which recently occurred in his practice, where, although the patient's head was literally laid open by a circular-saw cut nine inches long and three deep, he nevertheless recovered; furnishing surgical literature with "a parallel for the famous case of Gage," in New England, through whose head a drill as large as a "crow-bar" was shot, while he was engaged in blasting. The number contains also the usual amount of interesting miscellany upon medical subjects.

In this connection, we may be permitted to allude to a very sensible editorial in the New York *Medical Record* for March 1st, which we have by chance seen. The article asserts that the profession itself is responsible, in a great measure, for the growth of quackery among the people, inasmuch as it has taken no pains to spread a knowledge of true medical science. The people thirst for information upon the subject,—especially the educated classes; but none offer to give it them except the pretenders,—who are therefore listened to with avidity. Who can blame, then, those otherwise well-informed people for their utter ignorance upon medical matters, and their incapacity to distinguish between the bogus professor and the Simon Pures? If the teaching of the general principles of medical science were made to form a part of the ordinary educational routine, quackery would ultimately die out for want of support from the intelligent classes. Would it not be well, then, for the editors of medical journals to introduce a "Popular Department" as a new feature in those journals? In that way, while securing for them a greatly increased circulation, they may gradually educate the people up to a proper appreciation of the difference between an ignorant pretender and a physician who has undergone the course of training prescribed by the wisdom of those who have gone before him.

New Almaden Vichy Water.

Mr. Pioche has introduced the New Almaden carbonic acid water into the market in an article which has been named the California Vichy Water (after Vichy, France), several bottled specimens of which we have been favored with, with an opportunity to examine. Compared with some of the most renowned mineral waters of the East and of Europe, its taste and peculiar qualities merit favorable mention. Its acid taste and mineral flavor is most agreeable; its effect is invigoratiug, without the concomitant of intoxicating. An idea of its qualities is best conveyed by giving the ingredients—as per analysis of Mr. E. Piquet, of this city:

Bi-carbonate of soda	50.3 grains.
Carbonic acid	28.2 "
Sulphate of lime	10.5 "
Chloride of sodium	8.4 "
Bi-carbonate of lime	8 "
Sulphate of magnesia	3 "
Oxyd of iron	1.2 "
Silica	traces.
Total	One bottle, or two pounds=108.16 grains.

Concerning the medicinal or health-giving qualities of this water or any other of our valley carbonate and sulphate waters, we have no right to speak authoritatively; but the general impression is doubtless correct that out-door influences, in connection with the internal and external uses of waters at mineral springs, do more for the afflicted or for the recovery of those who have happened "under the weather" than medicine.

Manufacturing Notes.

Is it Buncombe?—Colfax, at the Chicago Pacific Railroad celebration, said:

"I put this prediction on record, and I won't wait ten years to see it fulfilled: That California and Oregon are going almost to rival New England in manufactures. I believe it. With all the hundreds of millions in the lands fronting the Pacific sea, stretching out their hands, as they will, toward this country for those articles that can be manufactured here, you will see the infant manufactures of the Pacific States leaping forward with the gigantic stride with which our country has illustrated its entire history in the annals of the world."

Though our destiny is plainly foreseen, and has often been asserted, how little action do we yet see in the most favored points of the interior? We hear of no great dams, of no water power being utilized for manufacturing purposes, at Bidwell's Bar, at Ousley's Bar, Folsom, Comanche Camp, Knight's Ferry, etc., where there ought to be Lowells and Lynns. Oroville has its dam—a mining concern—and will soon have its mills, we hope. Everybody knows what wonders have been worked in manufacturing within a few years, in and around San Francisco.

Complaints of decay in the mountain counties seem to us not in accordance with our true California miner's spirit of energy and hope, of taking hold *sans ceremony* where there is a good "prospect." The ox sees the locomotive approaching, but he will not move until he is positively certain that it intends to occupy the place on which he stands. We have cheap labor, and we have the market too.

Gilroy makes itself heard from again in the manufacturing way. A planing mill has just been completed, and is in successful operation, being within seven miles of the redwood forests. The Gilroyans declare that they would not swap their advantages to Oakland for all her famous water front, nor to Vallejo for her elevator; and that their park-like scenes and the hum of rural peace in which they rise to their daily labors, are such as cannot fail to enchant and captivate those who have been "used to the more rigorous climate and buckskin scenery of the northern coast counties, or those altitudes where mining yields but a meagre recompense to the hardy sons of toil."

A Suggestion from China.—The Shanghai *News Letter* of April 19th says: "We are informed that the people of California are no longer in doubt as to the practicability of raising up a silk trade of their own. We, on our side, are firm in our belief that China coals will pay to send to San Francisco, and that a railroad, even though it should not be intended to pierce India or have a terminus 300 miles off, would be of advantage could it be made to bring coals to our sea coast."

Manufacturing and Producing in Mexico.—The factories in the City of Mexico and neighborhood, at Puebla, Queretaro, Celaya and other manufacturing towns, have all suspended work for the present, says a correspondent. The fields are but little cultivated, and even the mines produce much less than in former years. In 1868 the total amount of coinage in all the mints of the Republic amounted to $199,-918 in gold and $4,163,205 in silver; instead of $17,000,000, the average coinage in all the previous years, and of $27,000,-000 in the beginning of this century.

We are furthermore informed by a mining constituent who is at work on the western slopes of the Sierra Madre, that if any fair vote could be taken to-day of the four northwestern States of Mexico, the majority would be clearly in favor of annexation to the United States.

For the Hot and Thirsty Sands.—A large brewery is in course of erection at Elko by Bixley & Bishop, to turn out five hundred gallons daily.

Brick Machines and Brick-making.—McCallister's brick machine at Albany, Oregon, is turning out 25,000 bricks per day. In San Francisco we hear of two newly invented or improved brick machines, in the hands of capitalists, concerning whose capacity and operations the public will soon probably hear more. Brick-making is not to be stopped, it seems, by such little earthquakes as we are subject to.

The Woolen Mills.—The building for the San José woolen mill will soon be completed, arrangements being now in progress for putting in the machinery. The Mission and Black Point woolen mills, we understand, will not make so great a display at the approaching Institute Fair as they did last year, but will be on hand in creditable style. In Oregon, the Salem woolen mill stopped work on May 7th, intending not to start up again until the spring clip of wool should be ready for market.

Oswego Rolled Iron.—Some of the Oswego Oregon iron rolled in this city is said to make first rate wrought iron for blacksmiths' use. Oregon iron has been pronounced rather tough for castings, but that quality is very desirable in wrought iron.

Chinese Shoe Manufactory.—Some Chinese capitalists are carrying on shoe and slipper factories in San Francisco. One at the corner of Sacramento and Battery streets employs forty Chinamen and lads, with three Wheeler & Wilson sewing machines. This factory turns out about 1,000 pairs of slippers per month. The uppers are chiefly made of carpet, or of sheepskins tanned by Chinese labor. The Chinese shoemakers in San Francisco make at least five thousand pairs of slippers per month, it is thought; and the prices ranging from $6.50 to $8.50 per dozen, the total will reach about $3,500 per month, or $40,000 per annum. In 1868, the value of imported boots and shoes amounted to nearly $8,000,000.

Iron Ore.—Mr. Chester H. Evans has brought us some specimens of sixty per cent iron ore (liminite) from Doaks' ranch, 5 or 6 miles easterly of Mokelumne Hill, where the ore can be gathered from a deposit 40 feet in width. This is the best quality of iron ore, and it will soon become valuable, if, as is hoped, some iron-worker or capitalist can be found to assist the owners in putting up a furnace. Wood is plentiful, suitable for making charcoal, and limestone is convenient. Dr. Hepburn, who has had experience in Pennsylvania, says he knows of no place in the East or West where a blast furnace could be run and pig iron produced more cheaply.

Established - - - - - 1860.

DEWEY & CO.
PATENT AGENTS,
Engravers and Publishers
Mining & Scientific Press.
Circulars Free.
SAN FRANCISCO.

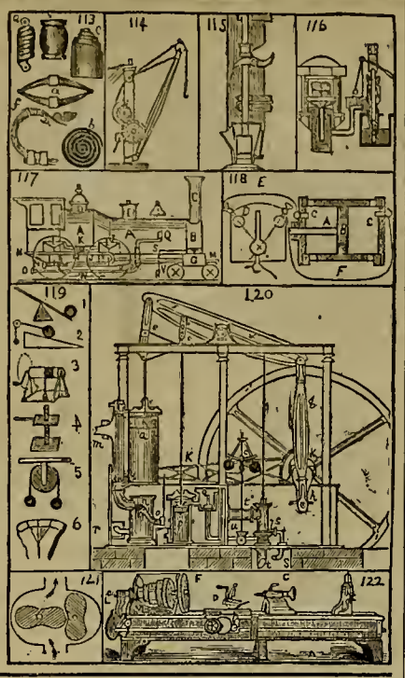
Office, No. 414 Clay Street.

The accompanying plate is from a series of Mechanical Movements illustrated and described and illustrated in our free circular, just issued, which contains a large amount of valuable information relating to Caveats, Patents, Patent Laws and Decisions, and the Rights and Privileges of Inventors, Patentees and Assignees. Copies sent to any address on receipt of postage stamp.

Promptly and Accurately

We draw up legal assignments for patentees; record assignments in the Patent Office; procure copies of United States and Foreign Patents; make examinations here and at Washington regarding the patentability of inventions; take up and prosecute rejected cases, depending upon success for our fees; reissues taken out; interferences prosecuted—in fact, every legitimate branch of the patent agency business is thoroughly conducted by us here and our branch agency in Washington.

DEWEY & CO.,
No. 414 Clay street, San Francisco.



Book on Mineral Deposits.

We learn that Cotta's *Erzlagerstaettenlehre*, a large and very valuable work, in two volumes, describing and classifying all of the known, especially the worked ore formations of Europe, has been translated into English by a young mining engineer, lately one of Cotta's pupils, and will probably soon appear in New York. So far as the American field is concerned, additions, we anticipate, will be made, which must enhance the value of the original work many fold—so much having been done, and so little written, regarding those new developments that have enlarged the American knowledge of vein geology since the discovery of Washoe silver. Cotta's work is especially good in the feature of classification of different kinds of deposits, and in its tabulations according to the minerals constituting ordinary pay ores. Its illustrations of the many varietics of worked deposits will throw much light upon a branch of mining science in which our miners' opportunities for comparisous have been limited to personal observation and travel. There are other works treating far more exhaustively of the nature of ore deposits than this of Cotta—who is, however, a model compiler, a popularizer—and little more.

In a new work on mineral deposits which is expected to meet the wants of the day, we call attention to the requisite that the Australian mining fields should not be overlooked; and that due importance should be attached to describing the results of chemical and mechanical modifications in surface concentration, a matter which possesses a great and direct interest to the practical miner who delves for profit.

Miss Anna E. Dickinson.—We have recently received a letter from a member of the family of this remarkable oratress, which gives a strong intimation that she will visit this coast the present season, seeking a field of rest and pleasure rather than professional engagements. Miss Dickinson has expressed a strong desire to visit California for the past few years, and we are quite confident that she will be one of the first of many talented lecturers from the Eastern States who will soon visit this coast, by rail, and afford Californians a new role of intellectual entertainments. We take it for granted that one so well calculated to appreciate the grand scenery and peculiar characteristics of this country, who has a gift for speaking eloquently, cannot refrain from doing so, whether intentional or not.

Farming, says an Eastern writer, will never be what it ought to be until we are able and willing to furnish men work during the winter, as well as in summer.

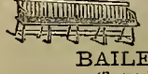
Latest From Grass Valley.

The Grass Valley Strike still "drags its slow length along." At last accounts, however, it was very quiet and doing no harm. There were some slight indications of forcible resistance made on Monday, when about forty newly employed men arrived at the Empire mine. At the hour for going below, a large number of "strikers" present used such threatening language that all but about a dozen of the forty backed out for the day. The next morning, the strikers, having got wind that the Sheriff would be on the ground with an armed force, wisely kept away, and all has since been quiet.

There has been a formal "change of front" by the League during the week. It has rescinded the obnoxious "force" resolution, denounced the party which interfered at the Empire mine on Monday, and will hereafter advocate the employment of moral suasion only, to bring about the disuse of giant powder. The citizens of Grass Valley have met in public meeting, and resolved to sustain the mine owners in their legal rights, and the laws of the State. All this shows a return to sense and reason, and an early establishment of quiet and work at this important mining locality.

Another Mastodon.—Mr. R. H. Dunning,—the inventor of several very useful gold-saving and ore-concentration devices, through the introduction of which he has become well known in nearly all of the foot-hill counties—exhibits to us from Stanislaus County a colossal thigh bone of a mastodon, which is remarkable especially amongst specimens of the kind in California for being in part very well preserved. It was found by Mr. Dunning five miles distant from Knight's Ferry, where the remaining bones are partially imbedded in a post-tertiary sandstone, and partially in the superficial gravelly detritus covering the sandstone. It weighs forty-nine pounds; the part fitting into the thigh socket is twenty-three inches in circumference; the piece of the thigh brought away measuring in length not quite three feet. Mr. Voy, it will be recollected, (Mining and Scientific Press of May 1st) mentions several localities in the same county—opposite Knight's Ferry and along the Stanislaus River,—where not only mastodon bones, but human relics of the stone age have been found. Mr. Dunning took his specimen with him by the last steamer for New York.

The Biggest Nugget Yet.—It is reported that a gold nugget weighing 210 pounds troy has just been found in Dunolly, Australia. The two men who found it, a year or two ago found two nuggets weighing respectively 108 and 36 ozs.; but had again got "broke," and could get no credit at "the store." On melting, the nugget yielded about thirty-five thousand dollars.



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No 51 Beale street, near Mission, San Francisco.
☞ Having recently fitted up with the best of Machinery, we are prepared to furnish all kinds of work in our line at the lowest rates.
BYRON BAILEY. 23v18-3m WM SMITH.

PROPOSALS WANTED!

ARTESIAN WELL.

THE OREGON
STATE AGRICULTURAL SOCIETY

will receive proposals until the first day of July, 1869, for boring an ARTESIAN WELL on the Fair Grounds belonging to the Society, 1½ miles from Salem. All communications and proposals to be addressed to
J. H. MOORES,
23v18-2w Salem, Oregon.

Notice To Mining Companies.

The undersigned offers his services to the mining public. Having devoted several years to the study of mining and metallurgy in some of the best schools and works of Europe, and being acquainted with the metallurgical treatment of ores as practiced on this coast, he is confident of his ability to render valuable aid to parties employing him.
CHAS. C. RUEGER.
Address, care of Mining and Scientific Press. 23v15

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hanshrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, fuel saving, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.
San Francisco, May 1, 1868. 18v16tf

Globe Iron Works,

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KEEP & BARGION,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.
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CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Slip and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. GALLAGHER. J. H. WEED V. KINCWELL.
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FOUNDRY FACINGS.

BENJAMIN ELLIOT,

No. 483 Brannan street.....San Francisco,

Manufactures Foundry Facings constantly, from choice coals. Bituminous, packed in tight sacks. Anthracite and Charcoal ground together or separate, packed in whole or half barrels. Black Lead, Coke and Soapstone ground to order. Foundrymen located far from choice material, can rely on having superior Facings forwarded to order.
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All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.
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Miners' Foundry

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HOWLAND, ANGELL & CO.,

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Manufacturers of Machinery for

QUARTZ MILLS.	**FLOUR MILLS,**
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Steam Engines of all Kinds.
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MINING PUMPS, HOISTING WORKS.
OIL WELL TOOLS, ROCK BREAKERS,

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches,

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE.

The most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,
13v14-qr **CYRUS PALMER.**

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MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

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BOILER MAKERS

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Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers**, with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care.

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

UNION IRON WORKS,

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Written for the Mining and Scientific Press.

In Favor of Carbonic Acid.

It has seemed to me that the doctors and professors have made this a kind of hobby in a bad sense; that is, they have for a long time been trying to ride it to death.

They tell us much about the invigorating effects of pure air, and of the deleterious effects of impure air. By this last phrase they always mean air containing more or less of carbonic acid. The day has gone by in which any man is to foist theories and hypotheses upon the public, unless sustained by observed facts; or to compel us to hold on to old theories after facts have shown their falsity.

Let us look at some of the facts. Pure carbonic acid is composed of oxygen and carbon, and is usually obtained in the form of gas. Sometimes it is seen solid as snow. It is then very cold and readily melts and changes its form, though it does not make water like snow, but passes at once into the gaseous state.

When taken into the stomach with our food or drink it produces no injurious effect; but it can not be taken pure into the lungs without very serious evil. On this account the doctors advise us to avoid it altogether. Here lies their mistake. Indiscriminate condemnation and deprivation of one of God's good creatures.

Carbonic acid has its uses. It enters largely into the growth of all plants, as they constantly absorb the gas during the day time, and give off a portion of it again during the darkness of night. Its use in small quantities for respiration must be beneficial.

The lion, king of beasts, sleeps in his lair which is not very well ventilated. The royal tiger takes his siesta in the impenetrable jungle where ventilation never comes except as a tornado, and then the tiger hastens to find a more healthy lodging in some other jungle. The eagle, king of birds, after snuffing the pure air as long as he can endure it, or till he gets his dinner, must retire to some safe place, and hiding his beak among his feathers, breathes a little carbonic acid just to refresh himself. The badger lives most of his time under ground in an ill-ventilated apartment, yet it takes two good dogs to kill him, though they spend most of their time in the open air, and only take a little carbonic acid in their kennels.

Carbonic acid must be good for animals while sleeping, else why is it ordained that trees and plants give off this gas at night while honest men are asleep. No doubt the air in churches, theaters and public halls, is often very impure and unwholesome. But bad lungs, decayed teeth, overloaded stomachs, unwashed feet, whisky and tobacco, have more to do with it than carbonic acid. Let public rooms be well ventilated immediately after the audience leaves, on account of these festering impurities more than from fear of carbonic acid. JEIGH ARRH.

[Writing from a cliff far out in the inorganic atmosphere of the Pacific, and breathing nothing but spray, we do not wonder at "Jeigh Arrh's" swinging around, finally, in favor of a little carbonic acid,—for is it not that gaseous substance that builds the organic world?—[EDITOR.

GOODS SHIPMENTS FROM NEW YORK TO SAN FRANCISCO.—We clip and condense the following from the New York *Commercial Advertiser*: "Few people are aware of the large quantities of goods that are required by the inhabitants of the Pacific slope. From this port alone there are no less that four regular lines, via Cape Horn, seuding on an average six vessels per month, or nearly 15,000 tons of cargo. Steamers via Aspinwall and Panama take at least 3,500 tons of goods per month. From Boston there are two lines, which dispatch about 4,000 tons of freight per month."

GLASS PLOWS.—It is stated that the proprietors of a plate-glass establishmeut in Massachusetts are employing glass in the form of mold boards for plows, for western lands, where the soil is very destructive to iron.

KILLED BY THE STING OF A BEE.—A man in England, recently lost his life by the sting of a bee on the jugular vein. Faintness came over him, and he died within half an hour.

LENGTH OF GUN BARRELS.—A correspondent of the *Scientific American*, who is a gunner and a gunsmith, gives the following hints: "For rabbits or partridges, a double-barreled gun need not be more than 24-in. barrels and 14 gage. For ducking on the Chesapeake, where they shoot from stands, the best is a 4-foot barrel (single), and five gage. For ducking on the eastern bays, the best is a double gun, with 32-in. or 34-in. barrels and 9 gage. The best for all kinds of shooting is a 14 gage, 30 in. barrels of from 10 to 14 lbs. weight. I do not agree with you that 16 or 18 inches will produce as good an effect as the longer ones. First, there is more recoil. Second, the muzzle will throw up at the discharge, spoiling the shot. Third, the charge gets out of the barrel too quick, or, in other words, before the powder is all ignited. Take two guns equal otherwise, one 16-in. and one 30-in. The 16-in. will throw out part of the powder unconsumed (which may be seen if fired across snow); the other will not. If the gun tapers from muzzle to breech, it will scatter, or if *vice versa*, will give and cut the shot, and will, in course of time, spring the barrels.

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15v18-2m

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THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books. *Nevada Gazette.*

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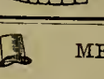
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FOR THE WEEK ENDING MAY 25th.

SAW AND SAW TOOTH.—John M. Johnston, Mayfield, Cal.—90,365.

I claim, in combination with the wedge-shaped recess D, cut in the base of the tooth, the wedge E, consisting of two pieces, riveted together, and provided with beveled edges, substantially aa and for the purpose set forth.

That portion of the removable tooth which fits into the recess, is made of a uniform width and has a suitable opening in its lower end for the reception of a wedge of peculiar construction, while the recess into which it fits is widest at the bottom. When the tooth is driven down, a small wedge inserted in the lower end of the tooth gradually expands the lower portion until it fits in the socket firmly. The inventor claims that by this mode of constructing and inserting saw teeth, a great advantage is had both in the effective operation and strength of the saw. The dangers of splitting, or cracking, is no greater than in any of the saws now in use, and the cost of manufacture will be no greater.

PAINT FOR SHIPS' BOTTOMS. — Henry Roundy, San Francisco, Cal., assiguor to Thomas M. Cash, same place.—90,395.

I claim the above-described composition for paint, made of the ingredients named, mixed, or compounded as enumerated, in about the proportion specified.

The product of this important invention is the California Marine Metallic Paint, already introduced to the favor of our commercial community by a company of well-known business men of this city. The tests already made of its virtues has justified the proprietors in applying for patents for several foreign countries where it is expected to come into extensive use. This paint can be furnished at favorable prices, while it is claimed to he a greatly superior article for preserving wooden ships, and effectually preventing iron vessels from rusting and corroding. It is also guaranteed to protect vessels, wharves and piles from attacks of the *toredo navalis*, and all kiuds of wood work from the ravages of the white cut and comajen, and other insects noted for destroying wood.

AMALGAMATOR.—James Thomson, Gibsonville, Cal.—90,409.

I claim, 1. The inside cylinder D, with its perforated cover E, confining-ring P, and clamp O, in combination with the feed-pipe B, constructed and operating substantially as described.

2. The wooden bottom J, provided with a concave surface I, in combination with the perforated watcr-pipe C, substantially as and for the purpose herein set forth.

3. The heater K, adapted for steam or fuel, in combination with the amalgamator, substantially as herein described.

This device consists in first passing the pulp from a quartz mill battery through a long vertical tube, which extends down into a shallow cylinder with a perforated cover. This cylinder is filled with mercury so that it stands at some depth on the cover, and all the pulp is forced by the pressure in the tube to pass through the mercury, and is intimately mingled and brought in contact with it by means of the perforated cover. After leaving this smaller cylinder, the pulp spreads over an amalgamated copper plate, around it aud within an outer large cylinder, and rises till it is discharged through an adjustable gate. A bent perforated pipe discharges cold water into the pulp, and by its action tends to unite the particles of mercury, and also to carry the pulp to the center. The whole mass within the cylinder is heated by means of steam within a chamber placed beneath. This chamber is so constructed that fuel may be used to heat it in place of steam, if desired.

BELT BUCKLE.—Francis Clauseu, San Francisco, Cal.—90,501.

I claim the projecting lip *a*, fixed relatively to the plate of the buckle, and provided with short or friction teeth, in combination with the smooth, vibrating, slotted bar *b*, arranged to press the ribbou against said teeth, substantially as deacribed.

This is au improvement on a lady's belt buckle, previously patented by the iuventor, and consists in arranging on the beveled projecting lip, over which the slotted bar folds, short teeth, to aid in holding the ribbon or belt firmly in place. We should judge this device would become popular with Califoruia ladies that are partial towards elegant gold buckles.

STAKE-PULLER.—Richard Knott, Suisnn City, Cal.—90,559.

I claim, in combination with the lever A, and its fulcrum, the ring B, pivoted at one side to the end of said lever, substantially in the manner and for the purpose set forth.

This device is designed more especially for drawing the iron pins which are used for securing horse-powers to the ground. It consists of a lever having at one end a ring with a hole sufficiently large to pass down over the stake. One side of this ring is formed into a clip, pivoted to the end of tho lever. A bar of metal is hinged below the lever near the same end which answers for a fulcrum. To operate the device, the ring is slipped over the stake to be drawn, while the handle of the lever is elevated, and the fulcrum placed on some solid body. By bringing down the lever the ring is turned sidewise, causing it to bind against the sides of the stake and draw it upwards. Raising the handle of the lever again allows the ring to slip further downward ready for another pull.

MACHINE FOR REAPING AND THRESHING GRAIN.—L. B. Lathrop, San José, Cal. —90,561.

I claim, 1. The device herein shown and described, for raising and lowering the sickle-bnr, or rather tbe whole front of tbe apparatus, said device consisting of the upright screw *b*, nut *c*, on arm *d*, the latter being hinged to the tongue C, while tbe screw *b* is swivelled in the frame work of the machine, the tongue C bcing hinged at its rear end by a horizoutal bolt, *j2*, substantially as and for the purpose herein shown and described.

2. The spring *l*, attached by means of a link to tbe off end of the sickle-bar, substantially aa and for the purpose herein sbown and described.

3. The application of the fan *d1* in the cylinder I', immediately below the inner end of thc apron Z, and under and in front of tbe threshing cylinder, substantially as and for the purpose herein shown and described.

4. In combination with the roller S and tbreshing-cylinder D', tbe separator J', when operated in an inclined box M', by two or more eccentric shafts K, substantially as herein shown and described.

5. The machine herein shown and described of moving the endless apron C', by means of two flexible or rubber rollers, Q' and *l'*, which bite the under side of the apron, substantially as herein shown and described.

6. Lining the edges of the endless aprou C' with cords or strings *m1*, substantially as and for the purpose herein shown and described.

7. Tbe manner herein shown and described, of regulatiug the fan *n'* in the cylinder R', by means of the sliding inclined plato P', substantially as set forth.

8. The application of a blast of air, whicb is created by means of a fan, *g2*, iu a drum, S', and tube I', for the purpose of elevating grain to the hopper U', substantially as herein shown and described.

9. The bag-holder, when consisting of the U-sbaped bar *s'*, which is hinged to the sidc of the frame of tbe machine, and whicb is combined with the bar v, and plates *w'* and *a2*, tbe latter being operated by a lever, *c1*, and all being made and operated substantially as herein shown and described.

10. Tbe combination, with the above, of an up-and-down adjustable board W', substantially as set forth.

11. The combined comb and rake, consisting of tbe bar X, hinged rod *m*, tines Y, and revolving tootbed reel B', all made and operating substantially as and for the purpos© herein shown and described.

PROCESS OF SEPARATING IRON AND OTHER METALS FROM POTTERS' CLAY.—William John Lynd, Golden City, Colorado Territory.—90,565.

I claim. 1. The process of removing iron, copper, and other discoloring matter from potter's clay and other argillaceous substances, by subjecting the clay, when in solution, to the action of onc or more magnets, in the maunor and for the purposes set forth.

2. The method of precipitating the iron and other discoloring matter in the clay solution, by passing through the bath contaiuing such solution a current of electricity, as and for the purposes set forth.

3. The mode of preparing potter's elay aud like substances from which discoloring matter is to bc removed, by subjecting such substance, in solution, first, to the action of a current of electricity, and afterward to magnetic action, in the manner and for the purposes specified.

LAMP EXTINGUISHER.—Carlton Newman, San Francisco, Cal.—90,572.

I claim, 1. The short sliding tube E and the link F, in combination with the lid *a*, whether attached directly to the lid or uot, the whole constructed and operating substantially as hercin described.

2. The curved rod *c e e'* and the weight H, when in combination with the link F and tube E, substantially as hercin described.

3. In combination with tbe tube E, link F, and lid *a*, the curved rod *c*, and weight H, substantially as described.

This invention consists of a tube for fitting the lamp, having a lid which shuts over it. In order to prevent accidents either from filliug the lamp or by upsetting it, a short sliding tube moves up and down outside of the wick tube, and is connected with the lid of the fitting tube by a liuk so that if the lid be raised either to fill the lamp, or by upsetting it, the flame will be extinguished by the sliding tube. A bent arm passes through the side of the top or burner, and has a weight attached to the end outside, and this arm is also connected with the extinguishing tube, so as to insure its moving if the lamp upsets. The weight aud the sliding tube may move independently of the lid, but the lid cannot be opened without extinguishing the lamp.

THE Commissioner of Internal Revenue has decided that farmers who have their grain manufactnred into flour, and then sell the flour in any manner, must pay a license to the Government.

ARTESIAN WELL.—The Oregon State Agricultural Society designs having an artesian well bored on their Fair grounds, near Salem. Secretary J. H. Moores advertises for bids in another column.

New Mining Advertisements.

Dos Pacre Gold and Silver Mining Company, Alamos, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-ninth day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm Bibler	299	20	$50 00
Wm Bibler	324	5	15 00
Wm Bibler	389	25	75 00
Wm Bibler	411	25	75 00
Wm Bibler	514	50	150 00
W Bryarly	168	10	30 00
J C Jonghaus	175	5	15 00
J Jonghaus	176	5	15 00
J C Jaughaus	177	5	15 00
E W McKinstry	405	25	75 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-ninth day of April, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., No. 426 Montgomery street, San Francisco, Cal, on Monday, the twenty-first day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

E. C. McCOMB, Secretary.

Office, cor. Broadway and Battery streets. je5

North Star Gold Mining Company.—Location of Works: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of June, 1869, an assessment (No. 1) of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 10 second floor of No. 402 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on Friday, the ninth day of July, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the thirtieth (30th) day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary.

Office, room No. 10 second floor of No. 402 Montgomery street, San Francisco jun5

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—The Annual Meeting of the Stockholders of the Silver Sprout Mining Company will be held at the office of the Company, No. 408 California street, San Francisco, on TUESDAY, the twenty-ninth day of June, 1869, at 12 o'clock M., for the election of Trustees to serve for the ensuing year, and for the transaction of other business.

T. B. WINGARD, Secretary.

San Francisco, June 4, 1869, je5

Mining Notices--Continued.

Bowden Silver Mining Company. Location of works: White Pine, White Pine County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fourteenth day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Charles B Young....Unissued		1000	$50 00

And in accordance with law, and an order of the Board of Trustees, made on the fourteenth day of April, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No 11 Hayward's Building, 419 California street, San Francisco, on Monday, the fourteenth day of June, 1869, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

M. S. MARTIN, Secretary.

Office, No. 11 Hayward's Building, 419 California street, San Francisco. my29

Douglas Silver Mining Company.—White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth (6th) day of May, 1869, an assessment of twelve and one-half cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the eighth (8th) day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. my8

Daniel Webster Mining Company.—Location of Works: White Pine County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Black, J J	27	50	$5 00
Black, J J	28	40	4 00
Black, J J	29	50	5 00
Black, J J	30	500	50 00
Brewer, Wm	53	10	1 00
Brewer, Wm	54	10	1 00
Brewer, Wm	55	5	50
Coupland, W F	71	100	10 00
De Ro, Chas, Jr	95	50	5 00
Evatt, W J	26	10	1 00
Farrington, Chas	157	100	10 00
Hentz, A H	105	10	1 00
Hentz, A H	106	10	1 00
Hentz, A H	107	5	50
Jackson, Andrew	31	15	1 50
Jackson, Andrew	33	25	2 50
Jackson, Andrew	34	25	2 50
Jackson, Andrew	35	25	2 50
Jackson, Andrew	36	13	1 30
Jackson, Andrew	37	25	2 50
Jackson, Andrew	39	400	40 00
Jackson, Andrew	40	150	15 00
Jackson, Andrew	41	100	10 00
Jackson, Andrew	43	150	15 00
Jackson, Andrew	98	10	1 00
Jackson, Andrew	109	10	1 00
Jackson, Andrew	10	12	1 20
Jackson, Andrew	11	17	1 70
Proeschold, Chas	75	50	5 00
Strahle, Henry W	72	50	5 00
Strahle, Henry W	73	100	10 00
Strahle, Henry W	74	100	10 00
Strahle, Henry W	75	100	10 00
Strahle, Henry W	76	100	10 00
Stetson, Geo D	61	25	2 50
Stetson, Geo D	62	25	2 50
Stetson, Geo D	63	25	2 50
Swinnan, John	77	50	5 00
Sebord, L G	56	25	2 50
Taylor, Holmes	60	50	5 00
Taylor, Holmes	65	100	10 00
Thompson, Ira D	100	50	5 00
Thompson, Ira D	101	25	2 50
Thompson, Ira D	102	25	2 50
Thompson, Ira D	103	25	2 50
Thompson, Ira D	104	300	30 00
Wigmore, James	50	10	1 00
Wigmore, James	51	10	1 00
Wigmore, James	52	5	50

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of April, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 418 California street, San Francisco, on the thirty-first day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. A. UHRIG, Secretary.

Office, No. 418 California street, San Francisco. my15

POSTPONEMENT.—The above sale is hereby postponed until Wednesday, the thirtieth day of June, 1869, at the same hour and place. By order of the Board of Trustees.

je5 O. D SQUIRE, Secretary.

French Silver Mining Company.—Location of Works: White Pine District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of May, 1869, an assessment of five cents (5c) per share was levied upon each and every share of the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh day of June, 1869, shall be deemed delinquent and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. my15

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of May 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, (up stairs) Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fourteenth day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. my22

Marlborough Silver Mining Company.—Location of Works: White Pine District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of May, 1869, an assessment of five cents (5c) per share was levied upon each and every share of the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh (7th) day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of June, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. my15

Nuestra Senora de Guadelupe Silver Mining Company.—Location of Works: Tayolitta, San Dimas District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of May, 1869, an assessment of two dollars per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, No. 210 Post street, or to the Treasurer, A. Himmelmann, No. 607 Washington street, San Francisco, **to settle the indebtedness of the said Company.**

Any stock upon which said assessment shall remain unpaid on the sixteenth day of June, 1869, shall be deemed delinquent, **when the payment will be enforced by law.** By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.

Office, No. 210 Post street, San Francisco, Cal. my15

Siempre Viva Silver Mining Company, District of Zarigossa, Sinaloa, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the fifteenth day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follws:

Names.	No. Certificate.	No. Shares.	Amount.
Bacon, J S	131	25	$25 00
Lohse, J S	237	2	2 00
Lohse, J F	165	10	10 10
Lohse, J F	198	4	4 00
Lohse, J F	242	10	10 10
Simon, S	88	10	10 00
Meara, Theo	99	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of April, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J Middleton & Son, at their salesroom, 310 Montgomery street, San Francisco, on Monday, the fourteenth day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco. my29

Pain Killer.—We beg leave to call the attention of the public to this long celebrated and unrivalled Family Medicine. The Pain Killer is a purely vegetable compound, and while it is a most efficient remedy for pain, it is a perfectly safe medicine even in the most unskillful hands. For Summer Complaint, or any other form of bowel disease in children or adults, it is an almost certain cure and has without doubt been more successful in ending the various kinds of Cholera than any other known remedy, or even the most skillful physician. In India, Africa and China, where this dreadful disease is even more or less prevalent, the Pain Killer is considered by the natives, as well as European residents in those climates, a sure remedy.

The Pain Killer is sold by all Druggists and dealers in Family Medicines.

KENDRICK & CO., and HOSTETTER & SMITH, San Francisco, Cal., General Wholesale Agents. jelm

Company Transactions.

New Incorporations.

The following new companies have been incorporated:

MINING.

LONE PINE SMELTING CO.—May 28th. Object: To smelt silver galena and other ores, and to buy and sell the same in Inyo county, this State. Capital stock, $20,000, divided into 200 shares of $100 each. Trustees: John Lutgens, Thomas Breen, Wm. Smedburg, O. D. Squires and Philip Mahler.

SUSCOL M. & M. CO.—Capital, $1,140,000, to operate in Gold Hill, Nevada.

GREAT CENTRAL G. & S. M. Co.—May 30. Gold, silver and copper in Battle Mountain District, Humboldt county, Nevada. Capital stock, $1,200,000, in 12,000 shares of $100 each. Trustees: Washington Ayer, F. P. Swott, J. H. Culver, T. W. Mulford and E. H. Snaw.

COMANCHE & WAR EAGLE M. CO.—White Pine. June 1st. Capital stock, $1,500,000; 15,000 shares of $100 each. Trustees: W. F. Foster, Peter Whelan and Charles E. Johnson.

PIUTE M. CO.—White Pine. June 1st. Capital stock, $5,000,000; 50,000 shares of $100 each. Trustees: Elliott J. Moore, P. B. Forster, H. G. Langley, R. C. Johnson, R. Mayrisch, D. H. Jackson and C. P. Schmidt.

BASE METAL SMELTING WORKS CO.—White Pine. Capital stock, $50,000, in 10,000 shares of $5 each. Trustees: John N. Risdon, James Chaplin, Lewis R. Word, C. A. Sankey and J. Arthur Hope.

SHOENBAR LODE M. CO.—White Pine. Capital stock, $5,000,000. Trustees: E. J. Moore, H. G. Laugley and P. B. Forster.

HOMESTEADS.

WEBSTER STREET H. A.—May 25th. Block 314, in the Western Addition; 44 shares of $1,400 each. Trustees: H. Kenitzer, Joseph Fredericks, John Apel, L. M. Cahn, Louis Kaplan, A. E. Hecht and P. Beroin.

NEW EXCELSIOR H. A.—May 29th. Lands in Visitacion Valley. Capital stock, $181,000, in 604 shares of $300 each. Trustees: R. Bayerque, C. F. Wagner, R. J. Harris, T. Meetz, J. H. Applegate, Jacob Regensberger and J. Napthaly.

Meetings, Elections, Etc.

MINING.

DIAMOND M. Co.—May 26th. Trustees: John Bauber (President,) William Codington, F. H. Wells, James Dunn and James Bailey.

HOPE GRAVEL M. Co.—May 27th. Trustees: Lewis Teese, Jr., (President),) William Sharp, (Vice President), H. O. Howard, W. A. Bateman, Wm. Carman. David Wilder was chosen Secretary, and Samuel Locke Superintendent. The company expect to be ready to take out ore in a month.

ENTERPRISE G. AND S. M. Co.—June 1st. Trustees: E. B. Mott, Jr., (President,) W. B. May, Secretary,) W. T. Fonda, Thomas R. Church and William C. Furrey.

BROMIDE FLAT M. Co.—June 2d. Trustees: David D. Colton (President,) W. E. Barron, A. Hayward, George Hearst and Charles Barner. Charles E. Johnson was appointed Secretary.

HOMESTEADS, ETC.

VILLA H. A.—May 27. Trustees: Richard Dorn, H. Hochkoffer, L. Gottig, A. Schatz and O. Schoeman.

GARDEN TRACT H.—May 31. Trustees: W. C. Doolittle, (President,) S. Littlefield, (Vice President,) James Gravea, J. T. Carr, D. K. Swim and George R. Starr. F. B. Wylde was appointed Secretary, and C. D. Wheat, Treasurer.

ABBEY H. A.—June 1st. Trustees: William J. Stringer, (President,) Edward C. Lovell, (Secretary,) James L. Blakie, (Treasurer,) John S. Luty, R. F. Fordham, E. Highton and Willard Hodges.

PIONEER H. A.—Alameda, May 24th. Trustees: Edward Babson, John Harding, James Alger, John A. Plummer, Jr., and William P. Harrison. James E. Damon was elected Secretary. Edward Babson, President, James Alger, Vice President, and William P. Harrison, Treasurer.

SHIPJOINERS' ASSOCIATION.—President, P. R. Black; Vice President, C. R. Pike; Secretary, George Blain; Treasurer, Geo. Cavan. Trustees: Thomas Nash, L. H. Langton, C. L. Prince; Sergeant-at-Arms, J. D. Galloway.

ORIENTAL FIRE AND MARINE INSURANCE Co.—May 27th. President, John Bell; Vice President, J. N. Eckel; Temporary Secretary, H. H. Bancroft; Counsel, W. H. Sharp.

Resources & Developments

SONOMA COUNTY.—A small steamer has just been launched, built expressly to run on the Russian River. She was to have made her trial trip yesterday.

Mr. A. D. Moore & Bro. of this city, has purchased the Carlton mill, near Bodega, and about 8,000 acres of good timber land in the immediate vicinity. They will build a railroad from their mill to the nearest shipping point, a distance of some twelve miles.

JACKSON COUNTY, OREGON.—It is claimed that the Klamath lake basin will in a few years contain a larger population than Rogue River Valley. It is settling up rapidly. An exploring party has recently made the trip from Cañonville through the mountains to Fort Klamath. They got through without difficulty, and report that $1,000 will make a good trail over the route.

STOCK GOING EAST.—W. C. Myers, an old resident of Jackson County, has started across the plains with a drove of horses. He expects to find a ready market for them in Missouri. This is turning the tide of trade. Messrs. Tice and Crano, also of Jacksonville, have started for Nevada, (Washoe), with a drove of hogs.

THE UMPQUA RIVER.—The country about the mouth of the Umpqua River, including Smith River Valley, is said to be improving more rapidly than it has been for several years past. The increased capacity of the Gardner mill has improved the demand for logs, and every location that offers even small encouragement for the logger or farmer, will be occupied during the coming summer. The Umpqua empties into the Pacific Ocean, about midway of the Oregon coast line.

"OVER THE LEFT."—The Sacramento *Union* says "the San Francisco Land-Grabber's Association are doing much toward the rapid settlement of this State by monopolizing all the good lands in sight, and raising their price from one dollar and a quarter in currency to $10 in gold." Nearly all the available lands of California are in this fix.

FLAX IN OREGON.—It is said that from three to four thousand acres of flax have been sowed in the Willamette Valley the present season. From 10 to 12 bushels the acre is expected, and the pioneer oil mill, at Salem is offering from $1.50 to $1.60 per bushel for the seed delivered at the mill. So says the Willamette *Farmer*.

SAN DIEGO, it is claimed, must soon become an important city. Both Los Angeles and San Diego counties are rapidly filling up with emigrants.

A POST ROUTE has been established from Maggie Creek (Carlin), Nevada, via Silver City, to Boise City, Idaho.

LOUIS NAPOLEON AND THE ENGLISH ENGINEERS.—While Louis Napoleon was still Prince, some 22 years ago, he addressed the members of the English Institution of Civil Engineers upon the subject of a canal connecting the Atlantic and Pacific. He showed genius in that line. Two months ago, that body elected him an honorary member; and on the 1st of May a Commission composed of the chief officers of the Institution waited upon him at the Tuileries and presented the usual Diploma.

The Emperor signed the register, and expressed his high gratification at the compliment. The Commission received invitations to a reception at the palace, and afterwards to dine with his Majesty.

FARM PROFITS IN OHIO.—The net profit per acre on the crop of corn to which the Ohio State Board of Agriculture awarded its last year's premium was twenty-eight dollars and seventy-six cents.

LEATHERED TACKS.—The Patent Commissioner has granted an extension to M. M. & J. C. Rhodes for their patent for a machine for leathering the heads of tacks. Over six millions of this style of tacks are used in the United States, daily.

SAN FRANCISCO, May 5, 1869.—MESSRS. DEWEY & CO. Gentlemen:—Allow me to express to you many thanks for services rendered me in procuring my patent, which has just come to hand. I would also say that your work has been faithfully done, and your advice and representations have in all cases been honest and truthful.

Respectfully, GEO. INWOOD.

POISON SUPPLANTED.—The deadly "firewater" which for many years was so fatal to the gold-seekers of California, is, to use the vernacular of the mines, "about played out." The diggers and quartz crushers decline, as a rule, to buy or use it. They find, however, that a tonic is necessary to enable them to withstand the unhealthy atmosphere of the placers, and to bear up against the privations and hardships to which they are subjected. After having tried a variety of medicated stimulants with a view of holding fast to the best, they seem, as a class, to have settled down in the opinion that Drake's Plantation Bitters have no equal as a strength-sustaining preparation and as an antidote to the malaria that produces intermittent and remittent fever. ***

A SPECTACLE WORTH SEEING—The continental crowd at Muller's Spectacle Emporium, 205 Montgomery street. *

Important to Assayers.

Crucibles.

The Patent Plumbago Crucible Co.,
Manufacturers of all kinds of
Melting Pots, Portable Furnaces,
CRUCIBLES, and other fire-standing Goods,
Battersea Works, London.

THE MORGAN PATENT CRUCIBLES have uniform quality, never crack, withstand the greatest heat without danger; heats more rapidly than any other; change of temperature has no effect on them; stand on the average forty to fifty pourings.

CERTIFICATES:

United States Branch Mint, San Francisco, Cal., March 12, 1869.—Messrs. A. S. Hallidie & Co., Agents Morgan Crucible:—I have carefully tested the Morgan Patent Plumbago Crucibles purchased from you for the U. S. B. mint, and cheerfully certify to their superiority and economy over all other Crucibles used by and under me. They are fully what you represent them, and I shall continue to use them in preference to any other. J. M. ECKFELDT, Melter and Refiner, U. S. B. Mint.

Eagle Brass Foundry, 206 Fremont street, San Francisco 12th March, 1869—Messrs. A. S. Hallidie & Co., 519 Front street—Gentlemen:—We have used and tested the Morgan Patent Plumbago Crucible, for which you are agents, and pronounce them superior to and cheaper than any Crucible used by us heretofore. GREENBEBG & MOORE.

Messrs A. S. Hallidie & Co:—We have thoroughly and severely tested in every way the Morgan Patent Plumbago Crucible obtained by us from you and find them superior to any we have yet tried, although we have used every one obtainable in this market, we have none equal to the above, and concede your claims for them. We think they will average 45 pourings of brass.

GALLAGHER, WEED & CO.,
California Brass Works, 125 Front street, San Francisco.

Assay Office of H. Harris, Silver City, Nevada, April 24, 1869—Messrs A. S. Hallidie & Co.—Gents:—I received from you three Crucibles of the Morgan make, which I have used since their arrival, and tested by constant use. Since 1847, when in the New Orleans Mint, I have always preferred the Crucible of Dixon's make over Adus, Gautier, and Taunton, Mass. Yours I find to be not alone of more finished make, but to stand double or treble the work of Dixon's Crucibles. The No. 12—the smallest sent—has stood so far 32 meltings, and is as good and sound as when received. Your Crucibles do not scale off like others; and as they are forty per cent. cheaper, I do not see why they should not be preferred by all assayers on account of durability and cheapness. Yours respectfully, H. HARRIS.

On hand and for sale by the Agents,
A. S. HALLIDIE & CO.,
18v18-9p **519** Front street, San Francisco

Pacific Mail Steamship Co's
STEAMSHIPS FOR
NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at **11** o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the **10th, 17th** and **30th** of each month that has **30** days
On the **10th, 18th** and **30th** of each month that has **31** days.

When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 17th falls on Sunday, they will leave on the Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departure of the 17th or 18th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

The following Steamships will be dispatched on dates as given below:

June 1—GOLDEN CITY.....Capt. Wm. F. Lapidge,
Connecting with ARIZONA, Capt. Maury.
June 9—MONTANA.....Capt. E. S. Farnsworth,
Connecting with ALASKA, Capt. Gray
June 13—COLORADO.....Capt. Wm. H. Parker,
Connecting with HENRY CHAUNCEY, Capt. Connor.
June 30—CONSTITUTION.....Capt. Wm. H. Hudson,
Connecting with ARIZONA, Capt. Maury.

Passengers berthed through. Baggage checked through. One hundred pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

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This to certify, that I have carried one of the small size Gold Metal Watches which I got of C. E. Collins & Co., and I find that it runs as well, and keeps as good time, as any Watch I ever carried, and I can therefore recommend them. I am engaged on the Sacramento steamer "Chrysopolis." C. A. COLAY.

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This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is throwu to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

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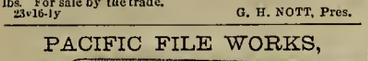

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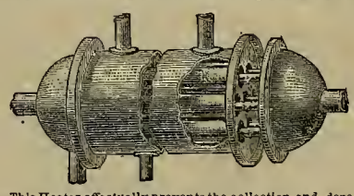

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JOHN W. QUICK, Manufacturer,
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Screen Punching in all its branches, at rates reduced from 25 to 40 per cent less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.

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Lots from 26 to 30 Feet Frontage by 129 Feet in Depth, in Blocks 88, 89, 90 and 91. Fronting on California street, between Seventeenth and Twenty-first Avenue.

Shares, $330 Gold Coin,
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This Association is organized to purchase a tract of land comprised in the above-mentioned blocks. The location of this property being on THE LINE OF ONE OF THE MAIN AVENUES leading westerly from the business center of the city, and now easily accessible, makes it unsurpassed in present and prospective value by any property in the suburbs of the city. California avenue will at an early day be graded its entire length, and the railroad facilities which will be furnished during the next year will amply accommodate all shareholders who may desire to improve their lots.

There is NO DRIFT SAND on or near this property, and NO HIGH HILLS. The lots are large, and ALL DESIRABLE. TITLE PERFECT.

Its fine location, nearness to the business portions of the city, and the low price at which it is offered, combine to recommend this property to all who desire a profitable investment on easy terms.

Books of subscription open at the office of H. R. CONGDON, No. 619 Montgomery street. 21v18 2t

Railroad Items.

SIGNIFICANT.—So important has the railroad interest already become, in this State, that a Railroad Directory has been projected, to the end that the people may have something for general reference in all business relating to railroad traffic. The work will be published by Mr. J. W. Standwell, of Sacramento, and will be known as "Standwell's Railroad Guide." It will appear in a few days.

THE CALIFORNIA PACIFIC. — Business upon this road is increasing so rapidly that arrangements have been made to put on a large propeller between Vallejo and San Francisco, for the purpose of carrying freight, the New World proving inadequate to the trade. It is also the intention of the company to put on an additional passenger steamer to run in connection with the New World.

THE CENTRAL PACIFIC has reduced its fare to five cents per mile, between Sacramento and Marysville, with a proportionate reduction on freight. Low fares and cheap freights, only, can be depended on to fill up the country and support our rapidly growing railroad interest. A large through business has already been established on this road, which must increase from month to month in the future. The low rates of fare and freight established cannot fail to lead to such a result. The delays at the junction, heretofore reported, have been overcome, and no time is now lost in waiting for trains. The various railway companies from Omaha, east and south, are so arranging their own time and tariff as to encourage travel over the Union and Central roads.

THE WESTERN PACIFIC will soon bring the overland cars practically into this city direct—probably by August or September. The completion of the tunnel at Livermore Pass will be the measure of delay. There are 600 feet of this tuunel yet to run, and the work is progressing at the rate of over 30 feet per week. There are 2,000 men employed in and near the Livermore Pass, one-half of whom are Chinamen.

BY RAIL TO SONORA.—The citizens of Tuolumne county appear to be in earnest for a connection of their central city of Sonora with the outside world by rail. A large and enthusiastic meeting has been held to initiate such a project. The entire State, and in fact all the world, is interested in the construction of a railroad from Stockton to Sonora, to the end that all may enjoy the benefit of a shorter and less wearisome journey to the Big Trees and the world-renowned Yo Semite. Sonora, as the terminus of a railroad, would become the depot for an immense extent of country, and would accumulate a large amount of freight to sustain such a work. The great wagon road to Mono would also by that means become a valuable property; and the mountains of Tuolumne would be filled with tourists.

BAD POLICY.—The San José *Mercury* says: "It is no unusual sight to see immense wagon loads of wool and grain pass through San José from the south, hauled all the way by teams for thirty miles alongside of a railroad—the exorbitant freight tariff (ten cents per ton per mile) rendering the old style of freighting cheaper." The citizens of Santa Clara are, in consequence, talking strongly of constructing a short road to connect San José with the Bay, and thence to this city by steamboat, rather than pay the excessive charges of the San José road.

TO VISALIA.—The party recently sent out by the Central Pacific to locate a branch of that road into and through Tulare Valley, report the distance from Shepherd's Ferry, on the San Joaquin, (at which point the branch will connect with the main road,) to Visalia, has been found to be 160 miles. The route is reported as being very favorable. The road can be built inside of a year, and would pass through and open up one of the most fertile regions in the State. The surveying party are now pushing on their survey still further southerly, in the direction of Tule River and Walker's Basin.

OREGON RAILROADS.—The Portland *Herald* says: "That we shall have at least twenty miles of road built this season from this city, we consider it perfectly safe to affirm. In order to secure the land grant this much must be built, and we understand that it is the intention of both companies to build

that distance. Mr. Holladay has gone below to look after the iron, and teams are already engaged in hauling ties on the road." This, we infer, relates to the road from Portland to Puget Sound. It is to be feared that the rival interests which respectively form these different routes for connecting the great agricultural valleys of Oregon with the California system of roads, will greatly retard the ultimate completion of either. It would be well if an early union could be effected upon some one line, and that completed at once. If Oregon once gets a single outlet for her trade, and thereby tastes the advantages which railways always afford, her territory will be rapidly filled up, and capital will not then hesitate to extend such other advantages as her growing necessities may require. We have no doubt but that we shall soon see three roads radiating from the Willamette—the one, eastwise, through Humboldt County in California to this city; a second connecting with our system of roads at Marysville, and the third tapping the great continental road at or near the Big Bend of the Humboldt, in the State of Nevada.

THE UTAH CENTRAL, to connect Salt Lake with the Central and Union Pacific, is now well under way, and will be completed by October—so Brigham Young says.

TRACK LAYING on the Denver Pacific Railroad was to have been commenced at Cheyenno soon after May 1st. The iron for the entire distance is stacked up at the eastern terminus.

MORE OVERLAND ROADS.—The completion of the great Central line has stimulated the managers of the companies on roads pointing hitherward, and has inaugurated definite plans for the construction of at least one additional route; which will probably be fed by several eastern arms; perhaps from St. Louis, Cairo, Memphis, and Baton Rouge, focalized at Albuquerque or Santa Fé, and dispatched to San Francisco over the line to be built from this side, within the next decade.

FAILURE OF THE VELOCIPEDE.—The editor of the New York *Evening Post* pronounces the velocipede "a failure." He bases his conclusion upon these two facts, viz.,—1st, that a mile in six minutes was the greatest speed attained at a recent trial on the Union Course,—and 2d, that "country roads are generally rough." In regard to the first, we have only to say that twice that speed has repeatedly been reached; in regard to the second, that a velocipede does not do well on a rough road simply because that is not the place for it. We should be soon think of pronouncing a locomotive a "failure" because it can't climb a tree. We suspect the editor aforesaid has tried the bicycle, and failed to shine as a performer upon it; and that his pronunciamento is prompted partly by chagrin at that failure, and partly by envy of his brother editor of the *Sun*, who,—he says,—is "the organ of the bicyclists in the United States."

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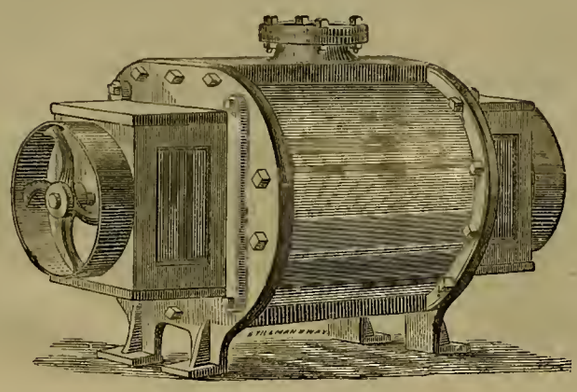
Patented Nov. 1st, 1861; July 24, 1866; and Oct. 9, 1866.
Awarded the First Premium at the Paris Exposition.

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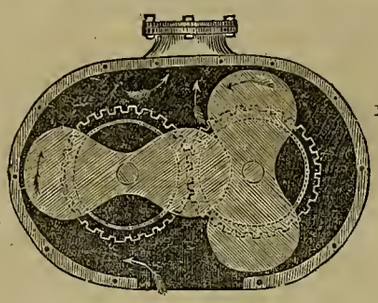
REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.
One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.
CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.
For circulars and further information, address
KEEP & BARGION,
4v16 3m Globe Iron Works, Stockton, Cal.

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A Two Thirds Interest
OF THE
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On the surface and flats for a distance of 500 feet from these veins, the ground or surface was mined by placer miners, in former years, producing from two to five ounces per day to the man, during the season when water could be obtained, which facts go to prove that a heavy deposit of ore was once contained in the croppings of these shutes, which, by all former and present theories of deep mine workings, came from below, indicating that when sunk upon to a proper depth, the lead will develop a mine equal to the Amador or Eureka.
This claim has paid its 19th regular dividend of $1,500 each, during the past four years, besides all the construction and other expense account, and has levied no assessments during the same time, and at present has on hand $8,000 in the Treasury, and no debts.
The last level 150 feet from the surface rock, averaged $7 per ton, on which was a profit of from $5 to $1 50 per ton. The length of the two shutes of ore on the east vein, and the only one worked upon, has been about 200 feet.
Now I propose to sell two thirds of this valuable property for $16,000, cash; and any party who desires to purchase a property of this kind—which theory has proven that requires depth, on well known shutes of ore, for a sure fortune—can obtain a chance here, providing he or they will go down a sufficient depth. No purchaser is solicited unless he first goes and examines the mine, or sends a mining engineer in whom he can have confidence, to indorse what he may think proper of what has been here stated.
For any further particulars, direct by letter to Wm. Bosworth, San Francisco, P. O. Box 1978, or at my office, room No. 5, over Donohoe & Kelly's Bank.
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THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It has donned a newsty-e hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

EARTHQUAKE WAVES.—A series of earthquake waves were recorded on the earthquake indicator at Fort Point, early on Tuesday morning last. Intelligence from Japan, the Sandwich Islands, and the South American coast is, in consequence, eagerly looked for.

An arrival at this port, on Thursday last, reports having seen a recent submarine volcanic outbreak, on the 6th of May, four or five degrees to the southeast of Niphon, the largest of the Japanese islands. There was a mass of rocks, about 50 feet high, evidently rising out of the water at the time. An immense volume of steam was ascending, and the rocks must have been very hot, as the surf which rolled in upon them sent up masses of steam, which was accompanied with a fearful hissing sound. It is possible that the disturbance then noticed may have been the precursor of an earthquake which has since sent its tidal wave across the ocean.

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

PHOTOGRAPHY.—For CABINET PHOTOGRAPHS, or Enameled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
10v18 6m B. F. HOWLAND.

DR. HALL has just returned from Europe after an absence of one year, during which time he has visited England, Ireland, France and Germany, and has held consultations with the following eminent physicians: Drs. Curling Druit, Lee, Parker, Acton, Aitken, Churchill, Ricord, Velpeau, Boech, Sperino, and Hewitz. Many of the cases in which he held consultation with the above named eminent physicians were, we are sorry to say, those of Americans. Americans will not now be under the necessity of leaving the Pacific Coast for Medical Treatment, for Dr. HALL has brought with him every new mode of treatment known to the greatest physicians of the world. To old residents of the Pacific Coast it is needless to mention the address; to newcomers, however, it is necessary to mention that he may be found at the American Surgery and Dispensary, 402 Montgomery street, opposite Wells, Fargo & Co's, San Francisco. 21v18-3m

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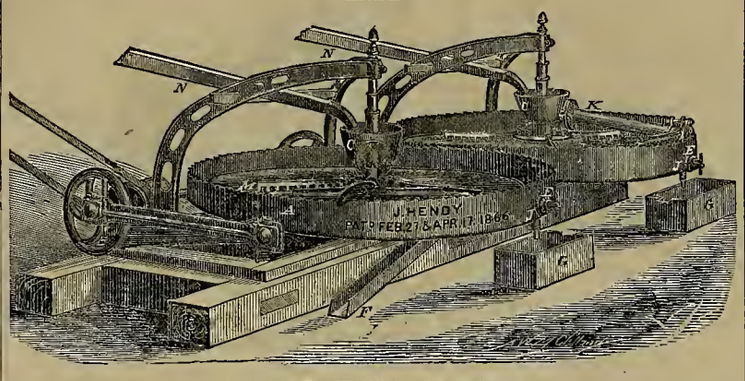

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OFFICE OF NORTH STAR MINE, GRASS VALLEY, Nov. 12, 1868.
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Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.
Office at Union Iron Works.
13v17tf

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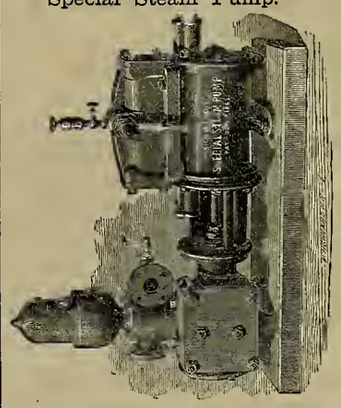

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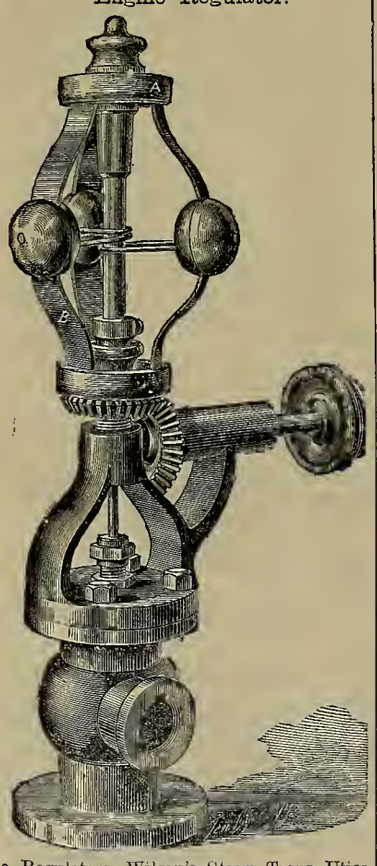

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SAN FRANCISCO, SATURDAY, JUNE 12, 1869.

VOLUME XVIII. Number 24.

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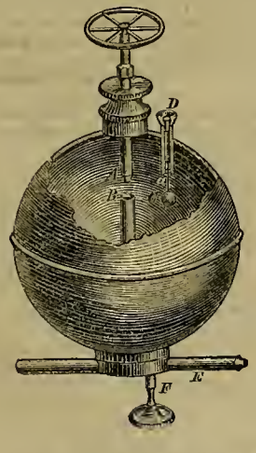
Teasdale's Patent Globe Lubricator.

No other invention has been the prime cause of so many successive improvements as the steam engine. When we contemplate how many times every separate part, and every one of its attachments, have been repeatedly improved, we are met, not by scores, but by thousands of inventions and patents which owe their existence to the original invention of James Watt.



Of this class of improvements, we have for illustration to-day what seems to us a very practical device for lubricating steam cylinders, recently invented by Mr. Geo. W. Teasdale, an operative mechanic and an engineer, recently of Lexington, Santa Clara County, California.

This device is intended to be used where a small but continuous quantity of oil is required, and in cases where it must be introduced against the pressure of steam. It consists of a globe which is shown as broken away, revealing the internal mechanism. The discharge tube, *B*, rises within the globe to near the top, and a conical regulating valve, *A*, stands directly over it, being moved up or down by a hand wheel outside. The oil is introduced through the funnel, *D*, and flows down into the globe which it fills to the top of the pipe, *B*, at which moment the float, *C*, will have risen so as to fit closely in the concavity, *a*, at the lower end of the funnel, thus preventing any further introduction of oil. A small screw plug is then introdneed at *D*, which prevents the escape of the steam after communication is made with the cylinder. Steam from the cylinder will enter the globe through the pipe, *B*, and the small portion which is continually condensing, sinks to the bottom of the globe by its greater specific gravity, thus causing a gradual rise in the surface of the oil and a consequent overflow into the pipe, *B*, along which it flows to the point of application. Whenever the globe becomes filled with water the cock, *F*, is opened, and the water blown out through the pipe, *E*.

The inventor is positive that these lubricators will be found to operate successfully and economically, and we see no reason why they may not come into general use, superseding the various styles heretofore employed. Messrs. Wm. H. & D. M. Moore, brass founders, No. 112 Beale street, are the manufacturers in this city, and will give all desired particulars, and furnish reference to parties who are already using, or testing the advantages of this promising invention. The patent was obtained through this office, and is dated February 23d, 1869. The inventor can be addressed by mail, care of box 17, San Francisco.

RAILROAD LANDS AND THE MINES.—The lands along the line of the Pacific Railroad in this State are rapidly being surveyed—both mineral and agricultural—and sales will speedily follow. The Railroad Act, it should be recollected, provides for the exception of mineral lands; but the timber, even upon that, goes to the road. The idea was no doubt to secure fuel, etc., for the railroad; but the mines are also valueless without timber, and it would be well for those interested in quartz mines especially to look after their interests in this particular, and secure titles from the railroad while they can—for the time is surely coming when timber will become very valuable along all our railroad lines, and will have to be planted to keep up the supply.

HEPBURN PANS, combining grinding with amalgamation, (from a half-inch grain obtained by a cracker) seem to be bearing up well under all tests of inquiry at the Vulcan Foundry, though we do not happen to be possessed of data sufficient to demonstrate to our satisfaction that Mr. Hepburn's claims of greater economy than in stamping, are in reality well founded—our only evidence on that point being the fact that additional pans are being ordered to fit up one or two mills entire, in Nevada, and that quite a number of old style pans have been altered into this. Four pans, we are informed, will grind fine, thirty tons of half inch mesh matter in twenty-four hours; while it takes eight ordinary pans, to amalgamate alone, that quantity. The diameter of the new Hephurn pans is five feet; that of the ordinary ones compared with it, 4½ feet. A 40-ton mill thus arranged is to cost half of an ordinary stamp mill.

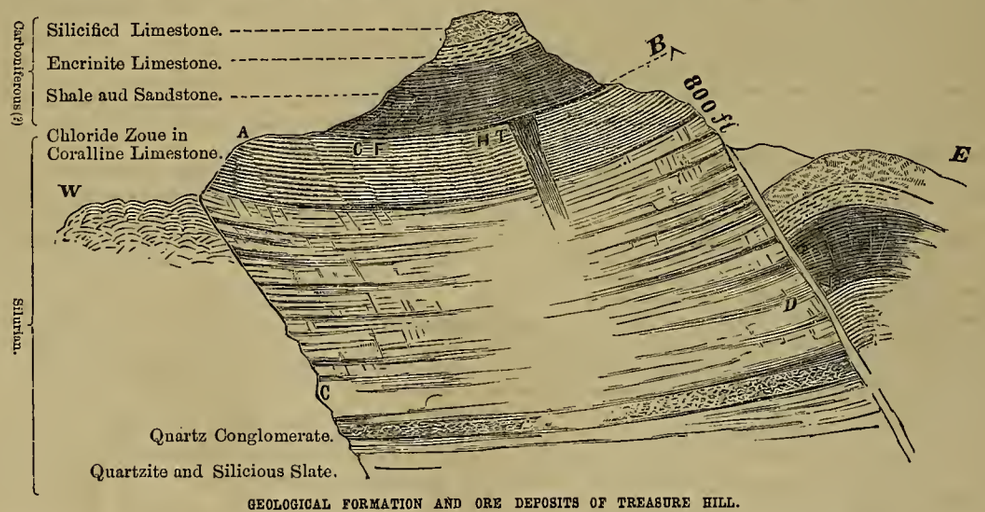
THE OVERLAND MONTHLY.—This magazine has changed hands as regards the ownership only. J. H. Carmany is now the sole proprietor. F. Bret Harte has, as heretofore, the editorial management, and A. Roman & Co. continue as publishers.

The numerous friends of the magazine, who, misled by a rumor that it had changed editors, had feared that its glory was departed, will therefore again breathe freely. It would indeed be a pity if this promising periodical, of which Californians have been so proud, and which has elicited such unmistakable cordial approbation from the Atlantic and trans-Atlantic press, should have a cloud cast over its young life by even a whisper to the effect that it was in danger of falling off. There is no danger. Its friends may rest assured that no bogus jingle is likely to take the place of the genuine ring which they detected in the first number.

OUR ramie plant, which is to supersede cotton, has been sent for by the Pasha of Egypt.

Something More About the Geology and Ore Formations of Treasure Hill.

From several trustworthy sources we derive the important fact that the silver-bearing veins and strata of Treasure Hill, so far as developed thus far by observation, have been found limited in the main to a zone of coralline limestone, measuring about 200 feet in thickness. In places where this conclusion would appear to be contradictory with the facts,—the mines showing a far greater difference of level,—Mr. Clayton informs us that he has invariably encountered evidence quite conclusively to him explaining the difference by a fault in the limestone rocks. In this argentiferous zone, in sedimentary rocks, the precious metal appears pretty regularly diffused; indeed, with such remarkable regularity that the outcropping of a more than usually rich stratum or series of strata commencing on a level with the Hidden Treasure mine, H T, and near the same level as Chloride Flat, C F,—dipping northerly,—can be traced on a slope down the western side, entirely around the northern horn of Treasure Hill, and back on the eastern side in the same plane of stratification, to the place of beginning; the same having been protected from denudation, with its superimposed strata, by a more than ordinarily silicious capping forming the summit of Treasure Peak.



GEOLOGICAL FORMATION AND ORE DEPOSITS OF TREASURE HILL.

The following East and West section across the middle of Treasure Hill, will illustrate some of the more striking points, for which we are indebted personally to Mr. Clayton's observation:

The heavy line A B represents the argentiferous stratum just referred to. Its outcroppings at H T and B are the summit of Treasure Hill—i. e., between its two highest points; the formations above it, as represented over the heavy black line, being those of the northern horn, or Treasure Peak. Beginning at the top, there is, 1, silicious rock to a very great extent pseudomorphous from limestone; 2, encrinitio

limestone, partially silicified; 3, calcareous shale, and sandstone, overlying the limestone A B. Down to this level the fossils are thonght to egree nearest with those of the carboniferous age, while below it they are silurian.

Belonging to the latter is the silver-bearing zone of about 200 feet, represented by horizontal shading; still deeper, quertz conglomerate, and silicious slate formations, which are not exposed anywhere near Treasure Hill, but which come to the surface next underneath the White Pine coralline limestones ebout forty miles further north, in Diamond Valley, on the western flank of Diamond Mountain.

The lines A C and B D represent north and south fissures in Treesure Hill, in which are situated several of the leading mines. They are lines of extraordinary faulting, along which a portion of Treasure Hill eppears to have been elevated e distance of about 800 feet; the evidence for which snpposition rests in the fact that the identity of the silver-bearing coralline limestone has been established at a point 800 feet lower, measured on the line B D, in the neighborhood of its line of outcropping, in a ceñon on the eastern slope of Treasure Hill.

It will be observed that the streta in the central part of Treasure Hill between A B and C D, sag in such e menner as to form a trough. This is in the line of north and south breekage, described by Mr. C., in which are situated the Aurora and the Mahogeny series of cleims. The bending of these strata of Treasure Hill proper into a concave shepe, and at the same time the generel convex curvature of the limestone strata found between B D end Applegarth Ceñon, E, on the east, ere accounted for by the supposition thet the central pert of Treasure Hill wes elevated along the fissures A C and B D, and in the tendency to sink beck it was held in place by the outer fissure walls, the effect of which would be as represented. In the wall west of A C—end everywhere on the western slope of Treasure Hill—the limestone has been eo thoroughly fractured and disturbed that stratification is nowhere to be recognized.

The Eberhardt fisnre is supposed to be the southern boundary of this elevated block; for on the southern unaltered side of thie fissnre the argentiferous coralline limestone strata are again found to appear at a lower level. It must be remarked that this part of Treasnre Hill is by no means the only block, according to Mr. Clayton'e observation, showing evidences of having been fanlted *en masse*. A district of abont four miles square, eituated west of the Shermantown and Swansea Ravine, has been depressed many hundred feet, its rocks being the continuation of the sandstones, shales, and encrintic rocks that form the highest summit of Treasure Peek.

While it is to be admitted that much of geology must necessarily be specnlative, it ie equally true that some of the most extraordinary truths have been revealed to us by its agency with a degree of positiveness never exceeded by any other of the sciences. A fault, whether it be small or great, of hundreds or thoueands of feet, is a thing that can be most easily, and most positively proven, to the meanest comprehension. Faults of more than a mile vertically have thus been found in the earth's crust, and the correspondence of the etrata established beyond a doubt. In regard to the correspondences of Treasure Hill, fnrther data will doubtless comc to light confirmatory or contradictory of the above suppositions. Probably the faulting did not take place simultaneously, nor in anything like the same degree, on the fissures of the eastern and western sides of the mountain, nor would it be confined to two in particular, as is here repreeented for illustration. A geological section is always and necessarily ideal, is often most correct when it ignores detail—and is very apt to be taken for more than it is worth.

We have not indicated the location of all the important fissures, or mines; our object being merely to convey a general idea. Nor is it to be inferred because chloride of silver has been found concentrated chiefly in certain strata, or in that part of the fissures intersecting the zone indicated, thet chlorides or sulphurets may not continue to greeter depths in veins, or even have origineted from a deeper level before encountering the proper conditions for horizontel deposition.

The question arises, in whet manner were the argentiferous limestone strata of Treasure Hill impregnated? Does the extent and the regularity of the diffusion of silver in them edmit of explanation by the ordinary process of ore formation in veins, stockwerks, horizontal infiltrations and intercalations?

The only remeining known character of oro-occurrence that could fit the case, is that of submarine deposit; of which we have perfect exemples in tbe ergentiferous copper schists of Mansfeld, Prussia, aud in the extensive copper schists of the Ural described by Murchison; both of which were formed at the bottom of salt seas or oceans in the Permian age. In the former, mining is now being carried on very successfully in the manner and method of mining for coal; the silver being a snlphuret, and extrected by roasting to sulphate, end leaching. We find iron pyrites diffnsed too in our foot-hill sletes, possessing all the appearances of having been deposited with the slates at the bottom of the ocean in the Jurassic age.

We shall be very slow, however, to accept that es the method of formation of the deposits of Treasure Hill. 1. Because the metalliferous contents of the ocean must always heve been pretty uniform, and can not possibly have been highly concentrated, the greatest degree of concentration being in basins like that of Mansfeld. It is in veins where neture's coucentration is effected. 2. Because the argentiferons strata of Treasure Hill do not extend uniformly over an area wide enough to admit of the existence of an argeutiferous silurian sea. 3. Chloride of silver being soluble in salt water, that substence certeinly cannot heve been precipitated or remeined at the bottom as chloride; the metel must have been a sulphuret, precipiteted probably as the Perm and Mansfeld metals in solution were, by the presence of carboneceous material, which is now found, says Murchison, elways in immediate contact with the metal prccipitated. 4. Sedimentary deposits of silver in connection with limestone rock is an occurrence thet would be new in the annals of mining, so far as our experience extends.

If the deposit of the metal wes sedimentary, the results must not disagree with such points as these: 1. Every ore deposit must have been deposited subsequent to the foot wall, and before the hanging wall; and a single instance of the hanging wall interrupting the deposit would be fatal to that supposition. 2. The ore stratum can ordinarily not contain any fragments of the material of the hanging wall, nor of the foot wall. 3. It is obvious that the ore stratum could not show any continuations or veinlets of ore, or vein material, such as spar, running up into the hanging wall, which did not exist. 4. It must be bent, folded and faultcd everywhcre precisely like the limestone. 5. It will not have any distinct wall with selvage, but is nearly certain to pass gradually over into barren rock, above and below. 6. The distribution of ore is regular, or, in some cases, lenticular, like the *septaria* of the sphaero-siderites in England. 7. A sedimentary deposit cannot show symmetry of arrangement in the sparry material of the opposite walls, such as is often seen in veins.

A layer vein, or infiltration between sedimentary strata, is the result of very different laws, which frequently do not differ much from those governing the formation of true veins.

Familiar Science.

Philosophy of Stale Bread.

Newly-baked bread, although a favorite with all by reason of its peculiar softness and delicacy of favor, is usually avoided, from the well known fact of its indigestible character. The second or third day after wheat is baked it loses its softness, becomes dry and crumbling—or, in common parlance, stale. It is then in its most proper state for food, and actually contains a larger amount of nutriment than when first baked. It is generally supposed that this chenge is dne to the evaporation of its moisture; but such is not the case. Bread loses scarcely any appreciable amount of moisture in becoming stale. This fact may be proven by enclosing a loaf of stale breed in e steam-tight tin, and exposing it for about forty-five miuutes to the heat of boiling water. The loaf on being taken out will be found as moist as when it came from the oven.

In stale breed there has simply been a change in the internal errangement of the molecules, or in the relation of the water to the flour—much like that which takes place when water is mixed with plaster of paris. No apppreciable quantity of water is lost, by ordinary eveporation, in either case; and in both, the water may be nearly all recovered by heat.

When bread is eaten before this chenge takes plece, or before the proper chemicel union is established between the flour and the water, it is in an unfit state to be acted upon by the gastric juice of the stomach, and nearly the entire quantity so eaten is voided from the body as unfit for assimilation into the system. Newly-baked breed cannot remain in the system long enough for the desired change; neither can that change be effected, et all, in the presence of an excess of moisture, either in or out of the stomach.

The quantity of water in well-baked bread, made from good flour, is about 45 per cent. of the weight of the loef. The bread we eat, therefore, is nearly half water. When eaten freshly baked, it is simply a mechanical mixture of baked flour and water, and is almost utterly indigestible and worthless. When eaten at a proper age, it is really "the staff of life"—both meat and drink to the consumer.

Falling of Leaves.—The falling of leeves from trees and plants is brought about by phenomena very much like the process attending the shedding of horne by animals. Although the fall generally takes place at the approach of winter, the cold weather has very little to do with it. It is caused by obstructions in the celluler structure at the base of the foot-stalk, in which they proceed until the cells are completely choked up, although the celle in other portions of the leaf retein their normal condition. These obstructions consist simply of a multiplication of the cell-walls, until the cells themselves become so completely choked that the fluids, which sustain the plant life, can find no passage. The leaf then falls off, as a matter of course.

Explanatory.—Why do wet feet or wet clothes cause us to take cold? Because the evaporation absorbs the heat so abundantly from the surface of our body, that its temperature is lowered below its netural standard; in consequence of which the health is injured. This also explains why it is dangerous to sleep in a damp bed.

Why do not sailors get cold, who are frequently wet all day with sea water? Because the salt of the sea retards evaporation; and (as the heat of their bodies is drawn off gradually) the sensation of cold is prevented. Also, the salt of the sea acts as a stimulus, and keeps the blood circulating in the skin.

Why is the health injnred when the temperature of the body is reduced below its natural standard? Because the balance of the circulation is destroyed, blood is driven away from the external surface by the chill, and thrown upon the internal organs, which are oppressed by this increased load of blood.

Influence of Light on Vegetation.

Humboldt records some experiments nndertaken by a friend of his to sbow the ection of light upon vegetables as follows: "He planted some peas in a box in a darkened room of his dwelling, which, when grown up, were of a yellow color. He also placed some in a room where daylight was entirely excluded, but snspended a lamp so that the rays of light from it would fall upon them. They grew np as green as though they had been exposed to sunlight." He efterwards tried some experiments himself, with the following results: "I planted vegetebles in a place where daylight could not penetrate, over which I snspended a paraffine oil lamp, with a reflector, to throw the light upon the plants. They have grown up a beautiful dark green. I have elso ligbted a greenhouse with lamps every night, and find it not only increases vegetation, but gives a beautiful deep tinge to the plants."

Twining creepers usually turn from left to right; some, however, turn in an opposite direction. The twining action has usually been ascribed to the effects of light. To test this theory, M. Ducharte, a French scientist, rccently tried a series of experiments, which we condense as follows:

Being awerc of the fact that the Chinese yam could live a long while in the dark, he resolved to try the effect of absence of light upon it. At the end of May, he placed one in a pot, and as soon as it showed its stem above ground, took it to a cellar, where it remained in complete darkness until the 2d of August following. The stem, in the course of seven weeks, grew to the length of four feet nine inches. It looked withered and whitish, but was, upon the whole, strong, and even stiff, and perfectly straight, showing nowhere a tendency to twine round the stick which had been placed there for its support. Another yam was planted nearly a month leter, and left exposed to the daylight until it had twined itself round its stick. It was then taken and placed in the cellar, where its stem, still obeying its natural tendency, went round once more, but in a more vertical direction than before; after which it grew straight up along its pole, to which it was fastened as it grew. It wes now again taken out into the garden, where it immediately began to twine round again, meking five close turns; and when it was once more teken down into the cellar, it continued its growth again in a straight line, end so on, eccording as it wes alternately in the light or in the dark. The seme phenomena was observed in several other climbers; but, on the other hand, the bean and the *Ipomœa purpurea* continued to twine around their supports in the dark.

Allow a potato to grow in a dark celler, to which a single streak of light only hes access, and the stelk or eprout will always lean and grow towards the light. The green coloring metter of plante is found in that particular portion of their fluid known as chlorophyll. All plents, in all conditions of plant life, possese this fluid. The flnid is always white, or of a more or less intermediate color between that and green. The coloring matter of the plant evidently depends upon the light. The mysterione influence of thet agency upon plants is as yet but very little understood.

Why Mountains are Cold.

It is a curious scientific fact that the atoms of air as we ascend are at greater distances from each other. If the distance between the atoms is diminished, they give out heat, or render it sensible; whereas if the distence betweeu them is increased, they store it away. The upper strata are sensibly colder than the lower, not because the atoms have less heat of themselves, but because the heat is diffused through a larger epace when the atoms are further apart. One pound of air at the level of the sea, within the tropics, may be said to contain no more heat than the same weight at the top of the highest mountain, perpetually covered with snow. It is for this reeson that the same wind which is warm in the valley becomes cold as it ascends the sides of the mountains. The diminishing pressure allows the air to expand and store away its heat. It is, therefore, not the enow on the top of the mountains which cools the air, but it is the rarity of the air which keeps the snow itself from melting. As a general law the decrease of temperature amounts to one degree Fahrenheit to every three hundred in perpendicular hight.

Mechanical Progress.

Beton Agglomere.

This is the artificial stone which is to win. M. Coignet is the inventor. To establish for it a reputation at once, a gigantic arch was built of it in Paris,—all in one piece. This arch was some 250 tons in weight, and rested upon two supports 200 feet apart. A section of the arch in the center was only about one square yard of surface.

An immense aqueduct 38 miles in length, requiring arches, tunnels and bridges, and a tube six feet in diameter, is now building of the same material. That will be all in one piece also. It was begun in the middle of last year, and according to contract is to be finished in three years. In the first eight months, one-third of the whole was done. M. Michlot, an eminent French engineer, reports as the result of trials, that a specimen of this stone 18 months old, has a bearing strength of 8,000 pounds per inch square. The Government is delighted with it; and has ordered certain bridges, which were to have been built of tubes of boiler iron, to be made entirely of this material.

What is it? Simply sand and lime,—and sometimes a little heavy hydraulic cement,—*with a very little water and a great deal of pounding*. There is the secret. We give the inventor's own words, making no apology for quoting *in extenso*, in view of the importance of the subject to earthquake-fearing San Franciscans:

"I have found that to obtain a stone with sand and lime, it is necessary to dispense with the greater part of the water employed thus far in the manufacture of mortars; water which in excess interposes itself between the molecules of the lime, and prevents the agglomeration of the mass. But, with this reduction in the quantity of water, it is necessary to employ other modes of bringing the grains of sand into close proximity, one to the other, so as to obtain an energetic setting of the lime. In order to do this, I make a mixture of a large quantity of send with a small quantity of hydraulic lime, with or without the addition, as the case may be, of a minute quantity of heavy hydraulic cement. This mixture, sprinkled with only a few hundredths of its bulk of water, is triturated energetically in a mill of special construction, acting by compression and friction, until it assumes the characteristic state of *pulverulent paste* or *pasty powder*, so necessary to the ultimate success of the process. In this state the mixture is thrown into molds, where, by a systematic action of a pounder exerting its power in every direction, and upon successive layers of this pasty powder, the agglomeration is effected in a perfect manner. This does not consist in the employment of new material, but in the mode of employing those already well known; and the effect is so powerful that it multiplies, by twenty and more, the the intensity of the setting of lime. If we make a mortar with three parts of sand and one part of lime slaked and mixed in the ordinary manner, and run this mortar into a mould to make of it a block of one foot cube, in the first place it will require several weeks (nay months) before we can take the block out of the mould. And after one year's exposure, if this block is not destroyed by the effect of frost or the action of the sun, it will crumble into dust under a light weight or by a slight blow. The same material, if properly agglomerated in a mould, may be taken out at once and will resist *absolutely*, as soon as made, the severest frosts and other atmospheric influences, and at the end of a few months it will resist the crushing weight of over 100 kilogrammes to the square centimeter. With a proportion of sand, 5 parts; of lime in powder, 1 part; of heavy cement, 1-4 part, we obtain a block capable of resisting 408,000 pounds to the square foot. With a mixture of sand, 4; of lime, 1; and cement, 1-2, a block of one foot face will sustain a crushing weight of 612,000 pounds. And with the proportions of sand, 5 parts; lime, 1 part; cement from 3-4 to 1 part, it may be made to bear the enormous weight of 1,000,000—*one million pounds and over!*"

Boiler Explosions.—M. Heaffman, of Breslau, publishes a description of some experiments recently made in accordance with the request of the Association of German Engineers. He used a small glass boiler, and found that when the escape pipes were only gradually opened, and the steam allowed gradually to escape, the generation of steam quietly continues, and the water remains pretty tranquil. But if, on the contrary, the valve is quickly opened, steam bubbles suddenly form all through the water, and rising to the surface place the water in violent commotion. In one of these experiments he watched the manometer, while another man quickly opened the valve to allow the steam to escape. As soon as the valve was opened the pressure fell three pounds, but immediately again began to rise, whereupon the boiler exploded. Where it had been in contact with the water it was shattered to powder, which lay around like fine sand. Of the entire boiler only a few small pieces, of the size of a thaler were left. M. Heaffman, thinks the action of the water on the boiler is the same as would be produced by exploding nitro-glycerine in the water. The effect is like an electric shock, and he is of the opinion that escape of electricity taking place during the issue of the steam is in play.

Street Car Axles.—The *Journal of the Franklin Institute* gives a tabular statement of some tests recently made upon Bessemer steel axles manufactured at the Pencoyd Iron Works for the Pennsylvania Central Railroad, and guaranteed to stand five blows from a ram weighing 1,640 pounds and falling 20 feet;—the axle being reversed after each blow. Each axle was made four feet longer than was required, and the surplus cut off to be subjected to the test. Every axle which did not stand it was rejected. The axles were 4⅛ inches in diameter, and the distance between bearings three feet. Thirteen of the twenty-five endured the trial. Two others, in which the test was pushed to extremes, broke, one at the eighteenth, the other at the twenty-fifth blow.

Steam and Exhaust Ports.—The common practice of making the steam enter and leave a given end of the cylinder through the same port, causes a waste of heat, especially with high expansion; because the expanded steam cools the metal which must again be heated at the expense of the next cylinderful. The entrance and exhaust ports should therefore be separate. The exhaust pipe should be double the area of the steam pipe.

The True Plan.—The Cleveland and Pittsburg Railroad have for the last five years offered a prize of one hundred dollars each year, to be competed for by the locomotive engineers employed on the road, and to be given to the one who shall run his engine the greatest number of miles with the least expense. The last years' winner ran 33,—600 miles. The same man has taken the prize three times out of the five.

Tensile Strength of Boiler Plate.—W. M. Henderson has an article in the *Journal of the Franklin Institute* for May, from which we quote: "The tensile strength of good iron boiler plate, at 80,° is about 56,000 pounds per square inch. Its tenacity will be increased as the temperature rises, under the conditions of generating steam, up to 550° above the freezing point; its maximum strength then is 65,000 pounds per square inch. From this it decreases in direct proportion; at double that temperature it loses one-half. As the temperature of the water in a steam boiler rarely exceeds 400°, its application to their construction is especially favorable. For the purposes of calculation, its average strength may be assumed to be equal to 60,000 pounds per square inch. The deduction to be made for single-riveted plates is 44 per cent.; for double-riveted plates, 30 per cent.;—single-riveted, 56; double-riveted, 70. From these data, the bursting pressure, equivalent to the ultimate strength of the single-riveted joint, is reduced to 34,000 pounds per square inch, and the double-riveted joint, similarly, to 42,000 pounds."

Emery Wheels.—Solid emery wheels have lately come into very general use for grinding and polishing. When well made they wear evenly and cut rapidly, and as they require no redressing, but last until entirely worn out, they are rapidly superseding the old fashioned wooden wheel coated with emery, and even usurping some of the functions of the ordinary grindstone.—*Scientific American.*

Scientific Progress.

Spectra of the Stars.

The Engineer illustrates and describes the apparatus used by Messrs. Huggins and Miller in their observations upon the stars made at the splendid observatory of the former gentleman, at Tulse-hill. The large refractor, of 8-in. aperture, mounted equatorially, has an object-glass of remarkable excellence, made, as is also the tube, by Alvan Clark, the celebrated American optician. A star-spectroscope contrived by Mr. Huggins, is attached to the eye-end; and wires from a large induction coil pass to a point in this where are placed two fragments of the substance whose spectrum is to be compared with that of any given star. The sparks taken between these two fragments, furnish the light which is to be so compared; and the observer can produce the sparks at will, by means of a break-piece attached to his chair, enabling him to complete or break the circuit without removing his eye from the telescope.

"The light from the stars is small; and as much of it is lost by reflection in passing through the apparatus, a large telescopic object-glass is necessary to collect plenty of light, and bring it to a focal point. This point of light is lengthened into a fine line, so that it may cover the whole of the slit of the spectroscope. The spectroscope has two prisms. A single prism will not give sufficient divergence of the rays to establish the identity of some of the dark lines; a second prism increases the size of the spectrum in length only, so that the light is not diluted by being spread over a larger area. The light from the ignited substance to be compared with the light from the star, is passed through the upper part of the slit, so is viewed through the same apparatus at the same time. With this apparatus Messrs. Huggins and Miller mapped about eighty lines in the spectrum of the light from *Aldebaran*, and ascertained that the atmosphere of this star contains sodium, magnesium, hydrogen, bismuth, tellurium, antimony, and mercury, besides other substances, some of which may not be known on this earth. The star *Beta Pegasi* contains sodium, magnesium, and perhaps berium. *Sirius* contains sodium, magnesium, iron, and hydrogen. *Alpha Lyræ*, sodium, magnesium, and iron. *Pollux*, sodium, magnesium, and iron. About sixty other stars have been examined, and all seem to have some chemical element known on earth. All the stars in plan of structure resemble our sun in that their light comes from white hot matter, and then passes through an absorbing atmosphere.

Arctic Researches.—Dr. Hayes still urges the importance of another American expedition for the survey of the Polar Basin. His plan is "to complete the exploration of the region north of Baffine' Bay; to trace Greenland and Grinnell Land to their termination; to explore the Open Sea; and lastly, to reach the North Pole. He would enter by Smith's Sound. Capt. Silas Bent, late of the U. S. Navy, on the other hand, conceives that every attempt to reach the North Pole should be made through Behring's Straits or by the Spitzbergen route. These he terms "the thermometric gateways to the pole." His views coincide in many respects with those held by the European geographers.

Evidence Assigned in Favor of a Molten Interior.—According to Professor Palmieri's observations of the eruptions of Vesuvius, the lava currents and the ejections of ashes had two maxima and two minima each day, and these periods suffered a daily retardation; moreover, the time of the greatest and least activity corresponded to the times of the syzygies and quadratures—that is, to those of the spring and neap tides. He concludes that there is within the earth, as has long been believed, not merely local melted matter, but a vast ocean, such as can be affected by tides. He argues that since bodies of water like the Caspian or Mediterranean Sea show scarce any tides, and since the fluidity of lava is far less than that of water, the mass of molten matter must be of vast extent, and that we may well believe the sources of volcanic eruption to be connected in one central molten mass.

Teratology.

This word signifies the "science of monstrosities." M. Dareste has been performing experiments with eggs by submitting them to artificial incubation under unnatural circumstances; in a vertical position, for instance, or partially varnished or glazed, so as to exclude, in some degree, the air. But changes of temperature in incubation, and especially the *mode* of warming the egg, have an important influence upon its normal development; and M. Dareste thinks that by war ming first some one point of it rather than some other point, he can so disturb its progress, as to produce, at will, various anomalies, such as the occurring of two hearts instead of one, one eye instead of two, etc. The experiments are interesting, and the results curious. We give a paragraph or two, translated from his remerks in *Annales des Sciences Naturelles*, for the American *Naturalist:* "The existence of two hearts, which I have had occasion to observe several times, results from an arrest of development which prevents the junction of the two primitive cardiac blastemæ. Cyclopie results from an arrest of development which prevents the two ocular blastemæ, primitively in contact, from separating themselves. This arrest of development is very probably in consequence of an arrest of development of the cephalic cap of the amnios; but I have not yet been able to establish this last fact with certainty. In fact, I have seen that the inversion of the viscera may be obtained when, in one of the malformations of the blastoderm previously indicated, the left region of the vascular area is more developed than the right, and when, also, the temperature of the center where incubation is effected, is relatively low."

Extemporized Compass.—During the discussion at the London Institution of Naval Architects, March 19th, upon the paper read by Mr. Saxby, to which we alluded in our last, the chairman, Admiral Sir E. Belcher, said that he owed his life to his acquaintance with the discovery made by Scoresby, that an iron bar would become magnetic if held vertically and struck upon the end a certain number of blows. When bewildered in the caves of Bermuda on a certain occasion, he took his iron jump, and after striking it in the manner described, suspended it by a string. The polarity it had acquired enabled him to find his way out.

Vinegar from Alcohol.—The difficulty has been that the oxidation of the alcohol is incomplete. But Dr. Artus has a new process. He dissolves half an ounce of bichloride of platinum in five pounds of alcohol, and moistens with this three pounds of charcoal, broken into small pieces. These are then heated in a covered crucible, and put in the bottom of a vinegar vat. The platinum in its finely divided state absorbs large quantities of oxygen from the air,—and the alcohol is oxidized thereby.

The Solar Prominences.—Prof. Henry Morton says: "From the spectroscopic observation made on the occasion of the eclipse in August last and since, there seems little reason to doubt that these promineuces are, in fact, cloud masses of very rare and intensely hot hydrogen gas, thrown out from an atmosphere of the same material surrounding the sun (to a depth of about 5,000 miles) by some violent atmospheric disturbances, such as we have every reason to look for in this luminary. These prominences have, moreover, been seen to alter in shape, and even to be dispersed within a few hours, and indeed they exhibit all the characteristics of gaseous bodies."

Another Martyr.—Professor Jerome Nickles, of the University of Nancy, died in April, from the accidental inhalation of hydrofluoric acid vapor. He had been for some time past engaged in experiments upon fluorine.

Farming and Gardening.

Strawberry Cultivation.

There is a growing conviction on the part of the public that a certain amount of fruit, in its season, is absolutely essential to the physical well-being of man. Thousands, within a few years, have discovered in its use a cheap and wholesome luxury. These facts are made evident in the rapidly increased consumption of all kinds of fruits. It is a noticeable fact that while population increases in different localities only from three to ten per cent. per annum, the consumption of fruit, especially small fruit, increases in three, four and five fold that proportion. This is not only so of San Francisco, but in nearly every city at the East as well. In Boston, where the population increased forty per cent. from 1861 to 1868, the increase in the consumption of strawberries during the same time was over 350 per cent.; and what is quite as significant, the price of the berry has advanced fully 33 per cent. It would appear from these facts that there is very little danger of overstocking the market.

There is no berry now more universally used than the strawberry; and we doubt if there is any which has given higher or more uniform profits within the last ten years. It is the only fruit that grows in every climate, and it is the only fruit that somewhere is picked every day in the year.

To speak of the value of the strawberry to the fruit-grower, and the facility with which it may be cultivated, is like repeating a twice-told tale. We shall therefore content ourselves, at this time, with reminding the farmer, and all others who own or occupy a few rods of ground, and who desire to promote the health and comfort of their families, that they should, by all means, provide them with a good strawberry bed—a very small bed, properly cultivated, will answer. When once started, it will grow and produce good crops with very little care.

Where it is desired to realize the most from a very small space, a rich bed should be provided; a soil containing a goodly proportion of clay, thoroughly and intimately mixed, is the best. Select strong and vigorous, but never *old* plants.

To prepare them for setting, the dead leaves and runners should be carefully removed. There is much difference of opinion as to the space which should be left between the plants. Everything in this respect depends upon the mode of cultivation. If a small bed is to be tended by hand, eight or ten inches will suffice; but in that case no hoe should be used. A fork or dibble might be carefully employed to stir the ground; but the weeds should be carefully pulled by hand, as a system of very small roots is formed near the surface of the ground, which would be destroyed by the use of a hoe. In field cultivation, two or three times that space should be allowed.

FERTILIZERS.

There is, as a general thing, no better dry fertilizer for strawberries than wood ashes. Attention, however, should always be paid to the nature of the soils in the application of fertilizers; but it is always safe to mix ashes with any manure employed. An intelligent Eastern cultivator gives his experience in producing large quantities from a small space in a city garden as follows:

I applied once a week, for three times, commencing when the green leaves first began to start, and making the last application just before the plants were in full bloom, the following preparation; Nitrate of potash, glauber salts, and sal soda, each one pound, dissolved in thirty gallons of rain or river water. One-third was applied at a time, when the weather was dry. I applied clear soft water between times of using the preparation—as the growth of the young leaves is so rapid that unless well supplied with the water the sun will scorch them. I used a common watering-pot, and made the application towards evening. Managed in this way, there is never any necessity of digging over the bed, and setting it out anew. Beds ten years old are not only as good, but better than those of two or three years of age. But you must be sure to keep the weeds out.

TO PRODUCE LARGE STRAWBERRIES.

Another cultivator records the following as a method by which he has been enabled to produce strawberries of mammoth proportions:

Remove the soil around each hill to the depth of half an inch or more, without disturbing the roots; then spread over an area of twenty inches in diameter a pound of finely pulverized linseed meal or oil meal, and cover it over with mellow soil; then spread a mulching of hay or straw two or three inches deep, over the entire surface between the hills. Should the weather be warm and dry, a liberal supply of warm water daily will generally promote the growth of both vines and berries. Pull up weeds, rather than cut them up with hoes.

Cut Grass Early.

A correspondent of the Germantown *Telegraph* cautions the farmers of that section against neglect in cutting their grass too late, as most farmers do. The advice is not inappropriate here, and at this time. A drive of other work is the excuse generally rendered for a neglect to cut grass at the proper time; but it is better to pay double price for help, if necessary, than to neglect such work even for a week. Grass that is fully ripe, so that the seed will scatter out in curing, is not worth the price of cutting, especially if one or two showers should fall upon it, either before or after it is cut. We urged the importance of this matter upon California farmers in our issue of April 24th, under the head of "Philosophy of Hay-Making." Hay is now ripening all over the State, and many farmers are no doubt, as usual, putting off cutting for a more convenient time. Cut your grass while in bloom, or you lose half its value. If you delay cutting until it becomes ripe, it will be worth but little more than straw. The mowing, tedding and raking machines are great helps to the farmer of the present day; and enable him to so hurry up his work as to get the fullest benefit of his hay crop, even when it is a very large one. Farmers will do well to hear these facts in mind, and act upon the suggestions herewith given. It is much better to feed nice juicy hay to your stock, than dried up, worthless straw, that has lost its grain or seed. Buyers, too, in the city and elsewhere, if they are intelligent and know what good hay is, will prefer to purchase that which is cut at the proper time, and will pay a better price for it.

A writer in the *Country Gentleman*, who has had considerable experience in raising stock, speaks of feeding over-ripe hay as follows:

Since being in this country, I fed hay cut when in bloom to working oxen, horses and some hundreds of sheep; it so happened that a late spring and being overstocked, rendered it necessary to buy, which we did of a neighbor who cut his hay late, and the consequence was the whole of the animals had to have extra meal and grain, and then the horses lost flesh, the oxen suffered worse, and the sheep sank shillings per head, and the ewes half starved their lambs. Common sense will tell any one that hay is hay; but straw is a different article; and pray what is any stemmy substance which has matured seed but straw?

APPLES AT THE SANDWICH ISLANDS.—Experiments have been made, which show that apples can be raised on some of the highest mountain slopes of the Sandwich Islands.

FARMING IN FRANCE.—The farming districts in France are decreasing in population. To encourage the people, a society of females has been organized to work a farm of 180 acres.

Fires in the Grain Fields.

The continued and extensive building of railroads through our vast grain regions must inevitably be attended with much loss during the excessively dry seasons which supervene in this State about the time of the ripening of the grain, unless the utmost precaution is used on the part of both railroad managers and grain growers. It is almost impossible to entirely extinguish all the sparks issuing from the smoke stack of a rushing locomotive. Our grain fields at this time are like tinder-boxes, and there is danger from even the smallest escaping spark. Last week 175 acres of standing grain were thus consumed on one ranch near Vacaville, in Solano County. Several other smaller fires were kindled by the same locomotive at other places on the line of the road.

There was, very probably, carelessness on the part of the engineer in this instance, and possibly the railroad company may have to pay for the damage. But it is to be feared that extensive fires *may* be kindled when all reasonable precautions are taken. Railroads are a necessity, and must be operated; and the courts will surely refuse to mulct them for damages when the best known precautions against fire are taken. This, we believe, is the rule of the Eastern and English courts, and it will undoubtedly be the ruling here.

It behooves both parties to take every reasonable precaution to avoid the occurrence of such accidents. Undue proximity to the road in sowing, on the leeward side, may be one of the means employed; and as there is increased danger during the time of harvesting, especial caution should then be employed. Possibly a useful hint may be derived from the following, which we clip from the *Alta:*

A farmer at San Rafael, who has suffered greatly from summer fires, consuming his grain crops and devastating his wild oat summer pastures, finds himself completely protected now by a fence of sorghum in the direction whence the fires come. He sows the seed broadcast, on a strip of land ten feet wide, and it makes a fire-proof fence. A few outside stalks suffer; but the flames do not pass through or over, and thus he gets complete protection. Incidentally, he discovers that the sorghum, fed moderately, doubles the amount of his milk, besides enriching it, and it puts thick layers of fat on the ribs of his cows.

To Make Cuttings Grow.

Much trouble is often met with in securing a proper start for cuttings, whether of small fruits, as gooseberries, currants, grapes, etc., or slips from rose bushes and other flowering shrubs. A very excellent plan is to boil some small potatoes until they are nearly done, and stick one on each slip, before setting in the ground. Very few slips treated in that manner, will fail to sprout and grow with anything like ordinary attention afterward. The potato serves to furnish constant and equable moisture to the cutting, until the stock can throw out little rootlets, of sufficient size to gather it from the surrounding soil. The taking up of moisture by the bare stump is a mere mechanical action, an effort to simply sustain life, until the proper organs can be developed, and the water must be brought in actual contact; that taken up by the rootlets is assimilated, with its due proportion of plant food, and affords nutriment for the growth of the plant.

The trees and plants recently imported from Japan, and those now on their way thither, are kept in a healthy and vigorous condition by having their roots bound up with a preparation made by grinding together earth and carrots. Carrots and similar esculents attract and retain moisture when thus ground up. A preparation of this kind would also be excellent for use in setting out slips or young trees. American gardeners and horticulturists might no doubt obtain valuable hints by a close observation of Japanese and Chinese gardening.

The Coming Harvest.

Judging from the remarks of our exchanges, we infer that the incoming crops, throughout the Pacific Coast, taken as a whole, will be unusually heavy the present year; although in some limited localities the yield will fall short of prosperous seasons. The cereals, in localities where the soil is favorable for the retention of moisture, are unusually heavy; but wherever lighter or more porous soils prevail, these crops will fall short of those of the two years past. But the greatly increased breadth of ground sown will much more than make up for all such deficiencies. In many places the deficiency in yield will be due to imperfect cultivation.

Dry ground, which, when merely scratched, yields only very inferior crops; when thoroughly and deeply stirred with the plow, often produces abundantly. The dryer the season, the more marked is the distinction between deep and shallow plowing. Thorough and careful husbandry is an experiment that has never yet been very extensively tried in California; although it will some day be found full as remunerative here as elsewhere. The generous nature of the great bulk of California soil, hitherto brought under the plow, has led to a negligent and superficial mode of cultivation, which is being attended with much disaster, as it is gradually extended into districts less favorable for such treatment.

In relation to fruits, the prospect is highly satisfactory. The strawberry crops has exceeded all calculations. Cherries and currants are now being marketed in great abundance, and of a quality and size never excelled. Apricots and other stone fruits are beginning to make their appearance, abundant in quantity and excellent in quality. Apples and pears also promise exceedingly well; while the grape crop was never more encouraging.

Oregon papers bring corresponding accounts of the fruit crop in the great Willamette Valley, where the growers are removing much surplus fruit to keep the trees from being broken down with their abundance.

SOIL OF THE FOOT-HILLS.—On most of the hill tops of the western slope of the Sierra Nevada where agriculture has been so sparingly undertaken, it is found that the pulverulent red soil, which constitutes most of the region, will produce without irrigation, from moderate to very good crops of wheat and oats; while for fruit,—apples, pears and grapes,—after one year's start for rooting is given by irrigation, the soil cannot be excelled in the world. To 1,500 feet above the plains, strawberries and other fruits ripen very early. Grass dies in June, however, and stock must be removed during the dry season into the higher Sierra. In some soils alfalfa grass will root to a sufficient depth to continue in growth for months after the wild grass is dead. Hay can be made, but only as grain is raised, by plowing, and by one volunteer crop. Railroad lands are a drug at $2.50 an acre, in gold. The intervening sections of Government land are sold for $2.25 in currency.

THE ROOTS OF PLANTS.—Roots absorb moisture at their tips. If we take a plant, a young tree, for instance, grown in a flower pot, and remove the roots from the soil without much damage, and then arrange it so that the tips of the roots have no contact with water, while the remainder of the tree is in contact with water, we shall find it will wilt nearly as quickly as though the whole plant was out of the water. On the contrary, if we arrange it so that the tip is in contact with water while all the rest is above, it will remain without wilting nearly as long as though all the roots were in contact with the water.

THE best farmer raises the most hay, the poorest farmer sells it.

Stock Review.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

SAN FRANCISCO, June 12, 1869.

Financial.

The fact that our savings and loan societies have again commenced to make loans indicates that their deposits are increasing, a fact which goes far to show that the monetary pressure to which we have been lately subjected is slowly relaxing. Advices from the East, the raising of rates by the Bank of England, the various forms used and demands for cash among ourselves in prosecution of new and costly emprises, the crushing excess of imports over exports, the collection of income tax and attendant locking up of funds in the National Treasury, the necessity for money to move the incoming crops, and a number of other equally cogent reasons, operated to induce an economy seldom practised by Californians. Business has been somewhat stayed on these accounts for the time being, and no purchases were made beyond actual temporary requirements. It is gratifying to add, that this condition of affairs is passing away, and a degree of confidence established in its place which promises well for the future. Our area of commerce and trade has been measurably increased, offering new and inviting fields, which have not been ignored by our business men.

Since our last issue, $1,170,052 in treasure have been shipped to Oriental countries, divided as follows: To China, $150,469 in gold bars, $308,389 in silver bars, $189,872 in Mexican dollars, $91,368 in gold coin, and $3,000 in gold dust—total, $743,098; to Japan, $136,373 in silver bars, $74,431 in gold bars, $216,150 in Mexican dollars. Our shipments via Panama have been as follows: To New York, $50,000 in gold coin; England, $235,366 in silver bars; France, $38,852 in gold bars; Central America, $129,112 in gold bars, $12,046 in gold coin, and $10,000 in silver bars; Panama, $23,200 in gold coin—total, $498,576.

In this market bank rates rule from 1¼@1½ per cent. per month, according to securities. Bullion is in fair supply with equally fair demand, but nothing pressing. We quote gold bars at 870@880; silver bars remain steady at the prices long ruling, viz., from par to ¼ per cent. premium. The export of $600,000 in silver bars in one week has not interfered with the market value of that sort of treasure. Currency bills on Atlantic cities pay 36 per cent. premium on gold; coin drafts, 1⅜ per cent. premium; telegraphic transfers, 2 per cent. premium; sterling exchange, 48¾d; commercial exchange, 49¼d; Mexican dollars command a premium of 5@6 per cent. Gold in New York, June 10th, 139¾; Legal Tendors with us, 72¼@73¾.

The Exports of Treasure from June 1st to date, have been as fellews:

June 1—Per Golden City—		
To New York	$ 87,524 81	
To England	669,360 54	
To France	7,000 00	
To Panama	20 000 00	
		$ 784,485 35
June 4—Per China—		
To China	$743,098 30	
To Japan	426,954 08	
		1,170,052 38
June 9—Per Montana—		
To New York	$ 50,000 00	
To England	235,365 76	
To France	38,852 17	
To Central America	151,158 42	
To Panama	23,200 00	
		498,576 35
Total since June 1st, 1869	$2,453,114 08	
Previously this year	15,970,193 98	
Total since January 1st, 1869	$18,423,308 06	
Corresponding period, 1868	18,080,059 72	
Increase this year	$343,248 34	

Our local money market is not pressed for funds required for legitimate business; but there is no disposition to advance on stock securities or speculative adventures. A great deal of cash has been advanced on mortgages, and is not yet available for business operations, while large sums have been employed in a variety of new and expensive enterprises which require time before making returns. The low prices commanded by farm produce, the uncertainties of the market, and the heavy loans already made on that kind of security, render it difficult for farmers to obtain the sums required to harvest and market their incoming crops; but as bread is a matter of absolute necessity, and the supply on hand is not over abundant, it is quite within bounds to expect that the difficulty will be removed in time to meet all requirements.

City Stocks.

The transactions in securities other than mining stocks during the past week have not been very large. We note sales of Spring Valley Water Co. stock at $66@65 50. A few shares of California Steam Navigation Co. stock were disposed of at 63 per cent. San Francisco Gas stock realized $80 per share. The California Building and Savings Bank announce a dividend of 1 per cent. per month upon their capital stock for the half year ending April 30th, payable on demand. The Bank of Stockton will dishurse a dividend of 1 per cent. on the 15th inst. The People's Insurance Company announce a dividend of 1 per cent., payable on the 10th. The officers of the National Insurance Company give notice that they will redeem their capital stock on and after the 14th of June. This company declined business nearly a year ago. The Buena Vista Vinicultural Society have levied an assessment of $5 per share.

Mining Share Market.

The mining share market since our last similar reference exhibited considerable vitality, if we take into consideration the rather general depression of business in all circles. At the close extensive sales of various prominent stocks have been made at declining rates.

From the White Pine district encouraging news comes to hand with regard to the increased bullion production and the very favorable condition of the various claims. The people of this State have so often been misled and cozened by false representations of unbounded mineral wealth in other regions, that they have come to entertain undisguised suspicion of new diggings reputed to possess unusual attractions. White Pine is near enough, within easy reach by rail, and has been sufficiently long before the mining public to have dispelled any doubt as to its capabilities. The bullion supplies received from that region; the extent of its mines; the amount of silver extracted from given quantities of ore; its volume, and the new discoveries constantly made afford indisputable and tangible evidence of its value.

CHOLLAR-POTOSI—sold at fluctuating rates during the past week. The annual meeting of this Company was held on the 7th inst. During the fiscal year under review, 26,734 tons of ore were extracted—13,292 tons coming from the 800-level. The shaft has been carried to a depth of 300 feet—from the 800 to the 1100-level. From the Secretary's report we make the following statement:

RECEIPTS.

Bullion product	$849,479
Sale of tailings	15,961
Assessment	90,000
Miscellaneous items	14,187
Cash in treasury May 1, 1868	127,683
Total	$1,100,410

DISBURSEMENTS.

Crown Point mine, laber and supplies	$287,853
Mine improvements	9,265
Working 25,833 tons ore	321,688
Legal expenses	4,815
Taxes	10,229
Assaying	7,555
General expenses Gold Hill and San Francisco offices	28,015
Virginia and Truckee Railroad subscription	18,750
Dividends to stockholders	360,000
Miscellaneous items	9,550
Cash in treasury May 1, 1869	42,690
Total	$1,100,410

The ore statement for the past year shows that 25,832½ tons were reduced, yielding $845,627, or an average of $32 73 ₱ ton, as follows:

	Tons.	Average.	Amount.
Rhode Island mill	17,685	$39 93	$546,959
Outside mills	8,148	36 54	297,641
Assay grains	..	..	1,027
Totals	25,833	$32 73	$845,627

The average cost of working the ore for the past year was $11 66, and for mining, $9 80—making a total cost of $21 46 ₱ ton. The assets of the Company on the 1st of May were as follows:

ASSETS.

Cash on hand May 1, 1869	$42,679 76
Rhode Island mill	60,000 00
Mine improvements, building, etc	80,000 00
Stock on hand at mine	33,282 38
Stock on band at mill	27,909 74
A. and P. S. Telegraph Co	493 75
Virginia and Truckee Railroad	18,750 00
Totals	$263,115 63

The only liability against the Company May 1, 1869, was $86,250, being balance of subscription ($75,000) to the Virginia and Truckee Railroad Company. The annual ore statements for the past five years compare as follows:

	Tons worked.	Milling, per ton.	Yield per ton.	Mining, per ton.
1864-65	3,766	$20 00	$36 66	$15 00
1865-66	18,258	15 09	37 73	8 87
1866-67	34,750	14 97	35 91	7 50
1867-68	25,964	13 36	33 25	9 85
1868-69	25,833	11 66	32 73	9 80

The following Trustees were elected for the ensuing year: A. Hayward, Thos. Bell, Thos. Sunderland, J. D. Fry and Robert Sherwood. Subsequently J. D. Fry was chosen President; John P. Jones, Superintendent, and Charles E. Elliot, Secretary. During the week ending June 4th 1,160 tons of ore were extracted, and 1,477⅔ forwarded to the mills. The connection has been made with the Hale & Norcross ground, on the 1100-station north. Tbo daily ore slip of June 7th states that six mills were supplied with 245 tons of ore. The bullion returns for May foot up $131,383.

IMPERIAL—has not been active. There is still no change either in the shaft or south drift. The bullion receipts in May amounted to $42,992 63 against $37,887 83 in April.——SAVAGE sold to a large extent during the period under review at a declino. The receipts of bullion in May foot up $155,000. A dividend of $3 per share is payable on and after the 11th inst.——GOLD HILL QUARTZ reports a hullion product of $5,600 81 for the month of May.

HALE & NORCROSS—has been less active than in the previous week. The receipts for the month of June aggregate $152,780 44. During the week ending June 5th 1,142⅔ tons of ore were extracted, as follows: 175-level, 97; 300-level, 291; 3d station, 51 tons; 4th station, 375⅔; 5th station, 580½ tons; and during the same time 1,147 tons were delivered to the mills, leaving on hand 943½ tons. A dividend of $6 per share is payable since the 10th inst.

EMPIRE—is in slight request. The bullion yield for May aggregates $14,618 37.——OPHIR sold to about the same extent as last week. On the 8th inst. the drift had been extended 343 feet. Tbe rock is as hard as ever, but is changing somewhut in character.——GOULD & CURRY has been in the market to about the usual extent. Timbers have been placed for the new station, but no drifting will be done from the station until tho timbering and sump are completed. Considerable ore has been extracted recently from the upper works of this mine.——AMADOR paid a dividend of $10 per share on the 7th.——SIERRA NEVADA disbursed its first dividend on the 10th inst., amounting to $2 50 per share. They carry over a surplus of $5,000 or $6,000. In May the receipts of bullion amounted to $21,800. On the 6th of July next a meeting of the stockholders will be held, to consider a proposition to increase their capital stock to $3,000,000, divided into 15,000 shares of $200 each.

ALPHA—sold to a somewhat larger extent than usual. An assessment of $5 per share has been levied by this Company.——EUREKA (Cal.) paid a dividend of $7 50 per share on the 10th inst.——GOLDEN RULE (Cal.) will pay its usual dividend of 80 cents per share on the 26th inst.

POWER OF LORD ROSSE'S TELESCOPE.—Lord Rosse's 40-ft. reflector would define a star so far off that its light, traveling at the rate of 190,000 miles per second, would require more than 8,000 years to reach the earth. Some of the stars which we now see with it, may therefore have been, for aught we know, struck out of existence long before Abraham was born; or,—if we follow Archbishop Usher's chronology,—any other man.

Weekly Shareholders' Directory, for Meetings, Assessments and Dividends.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

ASSESSMENTS.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alpha Cons, Storey co., Nev., June 5, $5	July 10	July 31
Adriatic, Storey co., April 21, $1	May 22	June 14
Blue Rose, White Pine, May 31, 5c	July 10	August 1
Belcher, Storey co., Nev., May 4, $5	June 5	June 24
Bowden, White Pine, April 14, 5c	May 29	June 14*
Ruilion, Storey co., Nev., May 24, $10	Payable immediately	
Cons Chloride Flat, May 25, $1	July 7	July 29
Confidence, Storey co., Nev., May 4, $10	June 9	June 30
Cherokee Flat, Butte co., May 1, $5	June 3	June 21
Cuyuga Chief, White Pine, May 13, 5c	June 17	July 3
Daney, Lyon co., Nev., May 29, $1	July 1	July 19
Daniel Webster, White Pine, May 7, 10c	June 10	June 30*
Douglas, White Pine, May 6, 12½c	June 8	June 21*
Dios Padre, Mexico, April 29, $	May 31	June 21*
El Tasie	Sale June 17	
Eina, White Pine, May 15, 10c	June 17	July 7
Edith, White Pine, May 12, 10c	June 17	July 7
French, White Pine, May 4, 5c	June 7	June 28*
Fogus, Amador co., April 23, $5	May 29	June 18
Gold Hill Q., Storey co., May 15, $20	June 18	July 9
Hope Gravel, Nevada, May 17, $1	June 21	July 12
IXL, Alpine co, May 10, $1 50	June 26	July 14*
Julia, Storey co., Nev. May 27, 50	June 29	July 17
Lottin & Poole, White Pine, April 23, 20c	May 31	June 24
Lewis Wren, White Pine, May 18, 15c	June 28	July 12
Marlborough, White Pine, May 4, 5c	June 7	June 28*
Morning Star, Alpine co., May 11	June 21	July 12
Maxwell, Amador co, May 15, $1	June 15	July 15
Mammoth, White Pine, May 20, 25c	June 26	July 15
Mount Pisgah, White Pine, May 26, $1 50	July 1	July 16
Nuestra Senora de Guadalupe, May 12, $2	Del. June 16*	
North Star, Nevada co., June 4, $20	July 9	July 30
North Star, White Pine, May 12, 7½c	June 18	July 17
North Bloomfield, Nevada co., May 18, $1 50	June 19	July 5
Overman, Storey co., Nev., May 15, $20	June 18	July 3
Ophir, Storey co, Nev., May 18, $3	June 21	July 6
Phœnix, White Pine, April 27, 25c	May 27	June 26
Pioche, White Pine, April 6, 15c	June 30	July 30
Pocotillo, White Pine, May 17, $1	June 24	July 15
Rathbun, White Pine, April 19, $1	May 25	June 14
Siempre Viva, Mex., April 15, $1	May 21	June 7*
Silver Moon, White Pine, May 31, 5c	July 10	August 1
Silver Wave, White Pine, June 7, 20c	July 9	July 30
San Jacinto Tin, May 27, 50c	June 28	July 13
Wheeler, Esmeralda co., Nev., June 3, $1	July 15	
White Pine Water, Under co., April 14, $50	May 22	June 19

MEETINGS TO BE HELD.

Allisen Ranch	Annual Meeting June 14
Alpha Cons, Storey co, Nev	Annual Meeting June 21
Crown Point, Storey co., Nev	Annual Meeting June 7
Empire, White Pine	Annual Meeting June 17
Hornet	Annual Meeting June 14
Hidden Treasure, White Pine	Annual Meeting June 15
Independence, White Pine	Annual Meeting June 17
Kewanee	Annual Meeting July 10*
La Belle	Annual Meeting June 7
Morning Star, Alpine co	Annual Meeting June 16
North Star, White Pine	Annual Meeting June 15
Planet, Arizona, copper	Meeting June 23
San Jacinto, Tin	Meeting June 17
Silver Spreut, Inyo co	Annual Meeting June 29
Sierra Nevada, Storey co., Nev	Annual Meeting July 6

LAST DIVIDEND.

Alpha Cons, Storey co., Nev, div. $2	Pay. June 19, 1868
Amador Co., div. $10 per share	Payable May 5, 1869
Bacon, Stercy co., Nev., div	Payable June 19, 1868
Cholar Potosi, div., $15	Payable June 3, 1869
Caney, preferred Stock, div. 1½ per cent	May 10, 1869
Crown Point, dividend, $7.50	Payable Sept. 12 1868
Empire M. & M., Nev., dividend $6	Payable May 15, 1867
Eureka, div. $7.50	Payable June 10, 1868
Gould & Curry, div., $7.50	Payable May 15, 1867
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868
Golden Charlet, Idaho, div. $2.50	Payable March 20, 1869
Golden Rule, Tuolumne co., div. 50c ₱ sh	Pay. June 8, 1869
Hale & Norcross, div. $6	May 10, 1869
Imperial, Storey co., Nev., dividend $4	Payable June 20, 1868
Keystone, Sierra co, div., $32	Payable May 6, 1869
Kcutuck, div., $20 per share	Payable Jan. 10, 1869
North Star, dividend, $5	Payable Aug. 15, 1868
Occidental, div. $2	Payable March 2, 1869
Pacific Unassessable, div	Payable June 18, 1868
Sand Spring salt, dividend $1	Payable Jan. 5, 1869
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868
Savage, Virginia, Nev, dividend, $4	Payable May 11, 1869
Sand Springs Salt, Virginia, div., $1	Payable May 5, 1869
Sierra Nev., Storey co., Nev., div. $2.50	Pay. June 10, 1869
Virginia & G. H Water Co., Dividend, payable April 15, 1869	
Yellow Jacket, div., $5	Payable March 15, 1869

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD

FRIDAY EVENING, June 11, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ —	—
United States Bonds, 5 20s, 1864	—	—
United States Bonds, 5-20s, 1862	88	88
Legal Tender Notes	72¼	73¼
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par & Int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco Gas Co. Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & Int.	
San Francisco City and Co. Sch'l Bds, 7s, 1866	88	90
San Francisco City and Co. Bonds, 7s, 1862	88	90
California State Bonds, 7s, 1864	88	90
San Francisco City and Co Bonds, 7s, 1865	88	90
San Francisco City and Co. Judg. Bds, 7s, 1863	88	90
San Francisco City and Co. Judg. Bds, 7s, 1864	88	90
Sacramento City Bonds	25	40
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	85	90
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	—
California Steam Navigation Co	—	60
Spring Valley Water Co	65	65¾
State Telegraph Co	25	—
GAS COMPANIES.		
San Francisco Gas Co	—	80
Sacramento Gas Co	52	53
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	—	73
Central Railroad	50	—
North Beach and Mission Railroad	—	76
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	160
INSURANCE COMPANIES.		
People's Insurance Company	90	95
Firemans' Fund Insurance Co	94	95
Pacific Insurance Co	112	116
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	1490	1500
Union Insurance Co	95	100
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	85	91
MINING STOCKS—WASHOE DISTRICT.		
Alpha	26½	27
Baltimore American	—	—
Belcher	26	27
Bullion, G. H	15	—
Crown Point	59	60
Cole (Va.)	—	10
Confidence	50	55
Consolidated Virginia	10¾	11
Cholar-Potosi	322	323
Daney	—	2½
Exchequer	13	16
Empire Mill and Mining Co	65	74
Gould & Curry	114	116
Gold Hill Quartz	33	38
Hale & Norcross	165	170
Imperial	80	84
Julia	—	3
Justice and Independent	10	12
Kentuck	210	212
Lady Bryan	18	20
American	24	21½
Occidental	18	18½
Ophir	24	24¾
Overman	15	16
Segregated Belcher	9¾	11
Savage	86	87
Sierra Nevada	40	49
Union	—	—
United States	—	—
Yellow Jacket	62	62½
MISCELLANEOUS MINING STOCKS.		
Amador (California)	275	285
Aurora, White Pine	24	25
Eureka, (California)	210	225
Golden Chariot (Idaho)	51	53
Silver Cord (Idaho)	—	—
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocotillo, White Pine	2½	15

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, June 11, 1869.

Fleur, Extra, ₱ bbl	$4 75	@$5 25
Do. Superfine	4 25	@ 4 50
Corn Meal, ₱ 100 lbs	2 00	@ 2 25
Wheat, ₱ 100 lbs	1 40	@ 1 65
Oats, ₱ 100 lbs	1 50	@ 1 75
Barley, ₱ 100 lbs	1 15	@ 1 40
Beans, ₱ 100 lbs	6 00	@ 7 00
Potatoes, ₱ 100 lbs	50	@ 1 25
Hay, ₱ ton	10 00	@17 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	—	@ 9
Sheep, on foot, ₱ head	2 50	@ 3 00
Hogs, on feet, ₱ lb	5	@ 7
Hogs, dressed, ₱ lb	9	@ 10
GROCERIES, ETC.		
Sugar, crushed, ₱ lb	14	@ 15
Do. Chilna	10	@ —
Coffee, Costa Rica, ₱ lb	19	@ 20
Do. Rio	—	@ 19
Tea, Japan, ₱ lb	75	@ 90
Do. Hyson	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 10
China Rice, ₱ lb	6	@ 6¾
Coal Oil, ₱ gallon	45	@ 47½
Candles, ₱ lb	16	@ 18
Ranch Butter, ₱ lb	35	@ 38½
Isthmus Butter, ₱ lb	32½	@ 35
Cheese, California, ₱ lb	15	@ 18
Eggs, ₱ dozen	35	@ 42½
Lard, ₱ lb	15	@ 17
Ham and Bacon, ₱ lb	14	@ 15
Shoulders, ₱ lb	7	@ 8

Retail Prices.

Butter, California, fresh, ₱ lb	45	@ 50
do. pickled, ₱ lb	30	@ —
do. Oregon, ₱ lb	30	@ 35
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	35	@ 45
Lard, ₱ lb	18	@ 20
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	1 00	@ 1 25
Potatoes, ₱ lb	1½	@ 2
Potatoes, sweet, ₱ lb	5	@ 6
Tomatoes, ₱ lb	10	@ 20
Onions, ₱ lb	5	@ 8
Apples, No. 1, ₱ lb	4	@ 5
Pears, dried, ₱ lb	6	@ 8
Plums, dried, ₱ lb	10	@ 12
Peaches, dried, ₱ lb	10	@ 18
Oranges, ₱ dozen	50	@ 50
Lemons, ₱ dozen	—	@ 1 00
Chickens, ₱ piece	75	@ 1 00
Turkeys, ₱ lb	30	@ 35
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	18	@ 20

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, June 4, 1869.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¾c ₱ lb.

Scotch and English Pig Iron ₱ ton	$44 00	@$45 00
White Pig ₱ ton	36 00	@ 37 00
Refined Bar, bad assortment, ₱ lb	03	@ —
Refined Bar, good assortment, ₱ lb	04	@ —
Beiler, No. 1 to 4	04¾	@ —
Plate, No. 5 to 9	05	@ 04¾
Sheet, No. 10 to 13	04¾	@ 5
Sheet, No. 14 to 20	05	@ 5¼
Sheet, No. 24 to 27	05	@ 6¼

COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	—	@ 26
Sheathing, Yellow	— 20	@ 21
Sheathing, Old Yellow	— 10	@ 11
Composition Nails	— 21	@ 22
Composition Bolts	— 21	@ 22

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@ —
Plates, I C Charcoal	—	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	—	@ 35

STEEL.—English Cast Steel, ₱ lb — @ 15

QUICKSILVER.—₱ lb — @ 60

LEAD.—Pig, ₱ lb — @ 8

Sheet	— 10	@ —
Pipe	— 11	@ —
Bar	— 9	@ 9¼

ZINC.—Sheets, ₱ lb — @ 11

BOBAX.—California, ₱ lb — @ 38

A SOBER TRUTH QUAINTLY EXPRESSED.—The Far West is, *par excellence*, the land of effective jokes, and there is often a good deal of solid truth as well as humor in Western repartee. A Virginia City correspondent of an Indinna paper mentions a rather neat hit made by one of the funny fellows of that remote region the other day. A young lawyer who had been employed to condense and put into a better shape the somewhat loose local enactments, complained to the humorist, who was a friend of his, that he found great difficulty in making the required digest. "I'll tell you what you do," said the other. "Ef you want to make a perfeck digest of them ar' laws, you just put yourself through a course of PLANTATION BITTERS, for I wish I may never strike silver if you ken help digestin' anything arter that." This, making due allowance for western hyperbole, was about tantamount to saying that the Bitters are the most potent tonic and stomachic in the world—a truth as self-evident as that all men are born equal.

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SHORT SIGHTED POLICY—To injure your sight by reading at night, when a good fit from Muller's Spectacle Emporium, 205 Montgomery street, would save the eye for years. *

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Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

ALPINE COUNTY.

Monitor Consolidated Mill.—*Chronicle*, May 29th; This mill is completed, bas heen tested, so far as pulverizing ore is concerned, and pronounced by its managers a perfect success. Now, what is to he done with it?

Pennsylvania.—The ore from the nortb drift, assayed by Wiegand, returns $69.39 in silver and $24.12 in gold; total, $93.51 per ton. Another lot went $20.17 per ton —$17.16 in silver and $3.01 in gold.

Globe.—*Miner*, 29th: Quite a change has taken place in the rock of this tunnel. Samples sbow a remarkable resemblance to the rock in tbe vicinity of the Tarsbish.

BUTTE COUNTY.

Trojan Quartz Ledge.—Oroville *Record*, June 5th: The ledge is situated two miles from Enterprise, on the South Fork, and has been worked two months. We have no idea of tbe amount of gold contained in the specimen brick sbown us, but think there must have heen $700 or $800. The mill produces two of tbese per month, with quartz enough in sight to run a year, and enough further on to last a century.

CALAVERAS COUNTY.

Petticoat.—*Chronicle*, June 5th: The main shaft is being sunk rapidly. No ore will be taken out until a depth of 100 feet below the old level is reached. Labor is progressing upon nearly all of the claims in Railroad Flat District.

Lower Rich Gulch.—Times are lively. Since the completion of tbe steam hoisting works ou the Palomo, active operations have been resumed with exceedingly favorable results. Alexander & Co's 10-stamp battery is never idle.

Wet Gulch.—The recent crushing of 90 tons of quartz from the Lewis Bros. mine averaged $33 per ton. The rock had been assorted. It is estimated that had the rock heen crushed as it came from the shaft it would have yielded $50 per ton. The tunnel for the purpose of tapping the lead below the water level is nearly completed. ....Chapman, Hopper & Co. realized $6,750 from 150 tons of rock recently crushed in Smart's mill at Railroad—an average of $45 per ton....Sandersou, Gay & Co. have a quantity of rock at the mill, which will be crusbed as soon as water can he obtained. The ore is of a high grade.

Gravel Mining.—Paul & Co., near the Junction, who have been running a branch tunnel since December, have struck through into gravel, and are ready to commence washing. The tunnel is 600 feet in length, through solid hed rock....The Golden Gate Co. have been released from their embarrassments, and are taking out gravel of surpassing richness. The water, however, interposes a serious obstacle to successful working, and it has heen found necessary to procure pumps of greater capacity.... The hydraulic claims of J. V. Martin, M. Shaw, Kane & Co., and the tunnel claims of Brackett & Co., Johnson & Co., Ridinger & Co., and many others, are also being worked, with pleasing results.

EL DORADO COUNTY.

Crystal Quartz.—Placerville *Democrat*, June 5th: This claim, near Brownsville, below the Independence, is yielding handsomely. It is now owned by Messrs. Gamlin, Stillwagon & Richardson. A 10-stamp mill erected two years ago, and propelled by water, has of late crushed some rich rock. Mr. Stillwagon brought to town with him a few days ago over $3,000 of fine gold, the result of a run of 24 days.

NEVADA COUNTY.

Eureka.—Grass Valley *National*, June 1st: The Eureka cleaned up yesterday, after a run of six days, 1,936 ounces of amalgam. Four tons of sulphurets were saved during the run, worth $200 per ton.

Idaho.—The gold from a week's run of the Idaho and the mouthly clean-up of the batteries was melted yesterday, and the result was two bricks, worth $13,300.

Clean-up.—Same of 3d: After a run of six days with eight stamps, the Hartery mine yielded $2,527.

Empire.—5th: The Empire bas been yielding some very rich specimen rock. Ore to the amount of $5,000 has heen taken out within a few days from the eighth level. A candle-box full of rock was brought in to-day, whicb literally sparkled with the precious metal.

Geo. B. McClellan.—We saw yesterday some fine specimens of ore from this ledge. The ledge is from four to six feet in thickness, and is particularly rich in sulphurets, worth from $80 to $400 per ton.

Wm. Penn Mine.—Grass Valley *Union*, June 4th: We yesterday saw some spleudid rock from tbe Wm. Penn. The rock showed well in free gold, and had heavy sulphurets all through it. The ledge is clearly defined and large. Tbe specimens came from a depth of 125 feet.

Everybody says the ore specimens from tbe Empire are the richest that have yet heen found in Grass Valley. One piece of the rock weighed 85 ounces, and was said by a good judge to contain $500 worth of gold. The beauty of the thing is, that this rich rock seems to be abundant, botb in tbe eightb and nintb levels.

Union Hill.—6th: The mill will show to-morrow, it is thought, over $500 for two weeks' run.

The North Star is idle. The Empire is short-handed. The Betsy bas not started, owing to the strike. Same of the Garden City.

Gravel Locations.—Nevada *Gazette*, June 2d: The Golconda Co. filed notice of 40 gravel claims yesterday.

Allison Ranch.—3d: A 6-inch plunger pump, to weigh 22,000 lbs., the largest in the State, except that at the North Star mine, which is of same size, has been contracted for.

Gold Shipment.—*Gazette*, June 7th: Marks & Co., at Moores Flat and Lake City, are shipping gold bullion from the two places at the rate of about $35,000 a month. This does not include the quartz gold from Eureka, nor the product of the claims of the North Bloomfield Gravel Co., those companies shipping direct to San Francisco on their own account.

Water Sales.—The Eureka Lake and Yuba Canal Co. consolidated are selling 6,250 inches of water daily on the line of their ditcb.

PLACER COUNTY.

Mount Carmen Claim.—*Herald*, June 5th: Jacob Cowan and A. H. Drake, located a claim between Smith's and North Ravine, two miles from here, a few days ago, aud on Tuesday struck the lead and took out some very rich specimens, one of which, weighing three pounds, yielded, heing pounded in hand-mortar, some $45 in pure gold. They own 600 feet of the ledge.

PLUMAS COUNTY.

Round Valley.—Quincy *National*, May 29th: Judkins & Kellogg, of Round Valley, cleanod up $2,500 for tho last week's run of their mill.

Rumor states that they are working rock at the Indian Valley mine, near Greenville, which yields, on an average, $50 to the ton.

Big Clean-up.—The New York Co., at Sawpit Flat, cleaned up 1,516 ounces of gold dust for their spring's washing, thus far.

North Fork Items.—The old Dutch Hill Co. are putting in pumps. At tbe back end of their tunnel, 1,200 feet from its mouth, the gravel pitched off so as to make this necessary. The claim is considered rich. Ferguson & Wagner have got through with their bedrock tunnel. Their prospects are not as flattering as anticipated. At Carihoo, Thompson & Mather have good dirt in the hill, 300 feet bigher than the old claims. It pays about $5 a day with a rocker. The water is yet too high to permit work in the main North Fork.

Meadow Valley Letter.—The miners are still busy, though in some localities the water is getting very slack. The companies on Gopher and Badger Hills, near Spanish Ranch, had to quit piping on that accouut, some weeks ago.

SHASTA COUNTY.

French Gulch.—*Courier*, June 5th: Hopping's Highlaud mine is prospecting splendidly. The Washington Company have struck a fine looking ledge three feet thick 500 feet from the mouth of their new tunnel. The company have been twelve months in running this tunnel.

Slate Creek.—A man called Frencb bas cleaned up as bigh as 45 ounces in one week, on this stream. The only trouble with the diggings on that creek is their spotted character.

SIERRA COUNTY.

Big Nugget.—Downieville *Messenger*, May 29th: A friend at Little Grizzly, writes that the New Orleans recently found a nugget worth $2,000.

Howland Flat.—Letter to Downieville *Messenger*, June 5th: The tunnel mines are beginning to make a better showing than for some time past. The Union Co. is into ground that pays exceedingly well. The Hawkeye Co. is about prepared to begin breasting, with flattering prospects, after having run a 3,000 foot tunnel to re-open their ground. The Monumental Co. inform me that prospects are improving, which, considering that it has been paying its way, is evidence that tbe chances are good. The Down East Co. is taking out pillars left along their main tunnel. The Pittsburg Co. is not doing a big business yet. The Lone Star Co's claim is paying well. Noyes, Dunn & Co., at Pine Grove, have considerable ground stripped in their sluicing claims.

YUBA COUNTY.

Pennsylvania.—Marysville *Appeal*, June 4th: We learn that the Pennsylvania mill is again in operation, and is expected that the rock about to be crushed will return a rich yield. We hope so. It is time. The mine should be condemned or made to pay. Experimenting has cost heavily.

Same of 5th: The Templer Quartz Mill, with all its machinery, is offered for sale.

ARIZONA.

Upper Hassayampa.—Prescott *Miner*, May 12th: Joseph Young, says the prospects are flattering. C. B. Genung is constructing arastras below the upper cañon to work ore from the Montgomery mine.

Nice Dust.—We saw, the other day, gold dust of the value of $1400, from the hydraulic claims of Jackson, Lovejoy & Co., on Lower Lynx Creek.

Tie-Tie.—The recent trial of ore from the Tie-Tie lode, in Walker's District was not a success. The reason assigned is that grease from the engine, etc., got into the well from which the arastras were supplied with water.

Theodore Boggs, witb four men, started for Big Bug, yesterday, to commence work on the Independence lode.

The Sterling mine is now 17 feet thick. Work is being pushed with vigor.

COLORADO.

Clear Creek.—Central City *Herald*, May 26th: John W. Thackara is finishing the Fairmount Co's mill in Hughle Gulch. John Dumout has commenced work on this creek, near tho Whale mill. He is hunting for the old chanuel. His shaft is 42 feet deep. Judge Colvin is on Trail Creek—building a stone mill. He is working his lode and rushing things. Bennett's steam stamp mill, on Trail Creek, will be ready to start on the 1st of July. Major Cannon is working the Whale, and has found a vein of rich ore, which will he tested in a day or so.

C. C. Baugs, of Idaho, has driven his tuunel on Montgomery Bar, South Clear Creek, 600 feet.

Warren, Hussey & Co. bave shipped $18,500 in gold within tho last two days.

From Georgetown.—Jo. Watson sent down $8,500 last week. The Equator Co. sent 3,000 ozs., and the Terriblo and others sent an aggregate of 1,750 ozs. in bricks.

Russell—Delaware Mine.—At 395 feet from the surface, the lower level east is now 40 feet from the shaft, showing two stroug veins of mineral. The work is done by contract, the men working night and day. The ore is rich, but will not pay in a stamp mill. Assays have been made, showing it to contain from $60 to $200 gold and silver per ton. A small engine is used in hoisting the ore and water. The mill is below tbe mine a few hundred yards. Fifteen stamps are kept busy, and the hest of the tailings saved. A large pile of ore is now at the mine.

North Clear Creek Mills.—*Register*, 27th: The Black Hawk is runuing steadily 40 stamps on Gregory rock, six ounces per cord. The otber 20 stamps are on California rock, second class, from 11 to 14 ozs. Jack Terry is running the old Eagle 20-stamp water mill, on custom rock from different mines, and has all that he can do. Fitzpatrick's 10-stamper is running on custom ore. The Holman 12 stamp mill is leased and run by Fred Conant. One battery is running on refuse rock from the Fiske lode, which yields about four ounces per cord. The other is crushing from the Columbia lode, Quartz Hill. Kimber, Buffington & Garrott's mill is runniug twelve stamps on custom rock. An addition has recently been built, in which have been placed 12 new stamps and 3 pans. Hurd's 20-stamper is running on secoud-class rock from the Kip lode, for B. S. Buell, which yields from three to four ounces per cord. The old Chicago mill is leased by George Wells. They are reducing second class Burroughs ore, five to six ounces per cord, 14 cords per week. They save blanket tailings, and run them in Bertola pans, obtaining from some ores ten per cent. of the gross yield. The old University mill is run by R. W. Mead, on ore from his claims on the Foote & Simmons lode. He is reducing ten cords per week, and obtaining four to five ounces per cord. The mill is a 15-stamper, and run by steam power. The Bobtail Mill is run by H. W. Lake, and is crushing rock from the Kip lode, for B. S. Buell. Nesmith & Mead's new 20-stamper is working steadily on ore from Rogers' mine, on tbe Bobtail, which yields from 6 to 11 ounces. The Holbrook mill, 13 stamps, is run by Ed. Moores and George Dittrich. They are crusbing Foote & Simmons ore in two batteries, and Vasa ore in the third. The former yields from 7 to 9 ounces per cord, and the latter about four. They are reducing 9 cords per week. The old Sensenderfer mill is undergoing repairs. At the Consolidated Gregory Co's 50-stamp mill, 25 of the stamps were undergoing repairs. The others were running on ore from the Geegory, reducing 3½ cords per day, four to five ounces per cord. Tbe section now being repaired has been running on ore from G. K. Sabin's mine, on the Forks lode, whicb yields an average of 8 ounces per cord. A lot of 12 cords of U. P. R. ore yielded 140 ounces gold—equal to 11¼ ounces per cord. The mill is a very fine one—one of the best in Colorado—and was planned for 100 stamps, 50 of which are set up, and the balance on the ground. Woodbury & Norton's fine 24-stamper, is in full operation, on a lot of refuse rock from tbe Prize lode, taken out several years since, and thrown aside as worthless. We understand that it is yielding three to four ozs. per cord. The New York mill is undergoing repairs. An addition has recently been made, and twenty new stamps set up. C. Walker's 18-stamper is at present running on ores from the vasa and Roderick Dhu.

Leavenworth Gulch, &c.—Geo. Mitchell is running his 12-stamp mill on Alps and custom ore, crushing 8 cords per week. G. B. Reed is running the Delaware mill, at the head of Russell Gulch. It is a 15-stamp mill, with a Blake rock-breaker, and is fully supplied witb ore from his mine on the Delaware lode. He is reducing about eight cords per week. Bucklin, Babcock & Elliott have leased the Morse mill, and are runuing it ou custom quartz. It is a 12-stamp mill, with one Dodge crusher, and reduces about eight cords per week. The King Co's 12-stamp mill, near the mouth of Willis Gulch, is on custom rock, reducing 8 to 10 cords per week. In Lake Gulch, Brastow's 20 stamps are on custom rock. Cheney's mill will be in operation again in a few days.

Eureka Gulch.—The Grinnell Central mill is reducing Prize and Burroughs rock, 15 cords per week, 6 to 7 ounces per cord. Jacob Tascher's 18-stamp mill reduces 10 to 12 cords per week, obtaining 6 to 7 ozs. per cord.

Ward District.—Breath & Gross, who are running the Ni Wot mill and mine uuder a lease, have opened a new ore streak on the south side of the vein, from which they are getting a full supply of rich ore for their whole fifteen stamps.

The Briggs mine is producing a large amount of fine smelting ore. Besides this, they are raising more stamp ore than they can reduce, running fifty stamps constantly.

Summit County.—Denver *News*, 26th: Gulch mining has commenced on the Blue, Stilson's patch, Frencb Gulch, Gold Run, Buffalo and Deleware Flats and Galena. Eighteen thousand feet of bar claims have heen taken up this spring on the Snake and Blue. Large parties of prospectors are going down the Blue to prospect the country in and around the Middle Park. Andrew Pedee has sold his lode property in Nigger Gulch, to Cincinnati capitalists. James McFadden has sunk on one of his lodes near Breckinridge, 50 feet. The crevice is eight feet wide, showing a large deposit of galena. The Shock Bros. have struck a rich lode on Gibson Hill and sunk it 40 feet. On Snake river the Potosi is improving. The Comstock sbows a large increase of mineral. The Monte Christo lode improves as deptb is gained; two feet of rich ore in sight. The King Tunnel has been driven into Glacier mountain 400 feet. The workmen bave just struck a large and rich lodc in this tunnel.

IDAHO.

Mining Items.—Owyhee *Avalanche*, June 5th: The Ida Elmore mill is running 15, and sometimes 20 stamps, and is in splendid condition. It is crushing quartz from the Ida Elmore....The New York and Owyhee mill is crushing quartz from the Golden Chariot. The quartz from both mines is rich....The Sinker mill is crushing quartz from the Baxter.

War Eagle Mountain.—Prospecting is carried on over the whole length and breadth. Mr. Sommercamp is on the south extension of the Red Jacket; other parties on the discovery. This mine bas been taken in band by men of energy....In the Baxter ledge, at 200-foot level, very rich ore has been found, witb a ledge of 2½ ft. in width, whence 150 tons of ore is now being milled at tbe Sinker....The Ida Elmore throughout carries a body of rich ore, averaging 2½ ft. in width; the lower 30 feet has a width over five feet....The Golden Chariot is as rich as ever. This mine, whicb is about equal in depth to that of the

Ida Elmore, has a vein larger than any yet met with.

THE POORMAN.—We are informed that a rich strike has been made again in this mine.

MINEAR MILL.—This mill has been rented or leased by Robert H. Leonard, to crush quartz from the Columbia ledge, now being hauled.

SALMON RIVER MINES.—Leesburg letter to Montana *Post*, April 24th: Our miners have commenced work generally. New mines have been opened in almost overy gulch and bar. Caty & Edwards have started at the head of Nappeas Creek with good prospects. Beer, Davis & Co. are working on their flume. In Arnet and Rapp's Gulches they work lively, Ward's Gulch has a large number of miners, and several new discoveries have been made. Work is only waiting for water. Sierra and Bear Track Gulches are now the scene of activity. The Lemhi country, 25 miles from here, prospects well.

MONTANA.

SILVER STAR.—Helena *Post*, May 21st: The two mills which yield more gold than any other two in the Territory, are kept running constantly.

ANOTHER BRICK.—At the assay office we saw a brick which weighed 617 ounces. It was worth, in currency, $15,131. This bar was composed entirely of gulch gold which had been taken out during the week. Another, hot from the furnace, 475 ounces, and of the value of $11,160.

BANNACK.—This town is in full glory. The placer mines are all being worked, and the big ditch is full of water. It is expected that more gold will be taken out this year than any before.

DIAMOND. — Major Davenport reports plenty of water, and every miner working.

JEFFERSON.—A. M. Esler is operating the Williams & Wooden furnace at this place, reducing rock from the Minnesota and Gregory lodes, with good results.

ARGENTA.—Times are improving. The old Esler furnace is now owned by E. Creighton & Co., and starts up at once upon rock taken out during the winter. Wash. Stapleton has purchased an interest in the Toole, Leach & Co. furnace.

HELENA DISTRICT.—A miners' meeting on the 19th, laid over all claims until May 1st, 1870, on account of the scarcity of water.

INDIAN CREEK.—A letter dated 15th says: The supply of water is rapidly increasing, and several companies have commenced operations on the bars and hillsides. Erwin, Thompson & Co. of the White Horse ditch, succeeded in getting water through a few days ago, and Cheat 'Em is once more lively.

VIRGINIA CITY ITEMS.—Alder Gulch is being vigorously worked. Drifts have been run into Eagle Hill from 50 to 80 feet, and the dirt from bedrock yields from one to ten dollars per pan. The water will be let into Hall & Southmayd's flume next week. ....Silver Belt is turning out richly.... Murphy & Co., who have been sinking for bedrock all winter, half a mile below Rochester, struck it about 34 feet below the surface, and found gravel yielding $125 to four pans of dirt....The McAndrew Wann mill has been running the past week on ore from the Julia Holmes.

NEVADA.

REESE RIVER.

The Reese River *Reveille*, of May 29th, gives a statement of the average value of the ores reduced at the mill of the Manhattan Co. during 1867 and 1868. The ores were nearly all from Lander Hill. The average for 1868 exceeds that of 1869, owing to the fact that the ores were more closely assorted. "The whole amount of ore reduced during those two years, was nearly 9,000 tons, which produced about $2,000,000. With the present developments of the mines on Lander Hill, this product might easily be doubled. But to achieve this, the cost of supplies must be reduced at least 20 per cent., and labor must decline in the same ratio. This would reduce the cost of extraction and reduction, and a vast amount of ore, which has now no appreciable value, might be sent to the mill at a tangible profit. The idea of simple chloride and sulphuret ores, worth $80 to $90 per ton, not being mined and reduced to advantage, suggests sharp comments upon our present system."

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

FORT HOMESTEAD TUNNEL.—Gold Hill *News*, May 25th: The southerly end of the railroad tunnel through Fort Homestead is commenced, and a force of hands at work on the outside cut for the face. The northern section is in a very advanced state, and it will not be many days before the connection will be made.

BELCHER MINE.—Little or no ore is being hoisted, and the principal work done is in prospecting, at the 335, 420 and 850-foot levels. From 35 to 40 men are employed. The shaft consists of three compartments, and is 900 feet deep, but the lowest workings of the mine is at the 850-foot level.

FLOWERY.—The last clean-up of 50 tons showed a yield of $24.38 per ton.

BIG CLEAN-UP.—*Enterprise*, June 1st: The Sierra Nevada were yesterday engaged in making their usual semi-monthly clean-up. This will be the largest they have ever made. It is thought that it will amount to at least 70 pounds of retorted gold bullion.

CHOLLAR DIVIDEND.—Same of 4th: The Chollar-Potosi Co. yesterday declared a dividend of $15 per share, payable on the 5th inst. The yield of ore per day is at present about 180 tons, averaging nearly $50 per ton.

OPHIR.—The drift west from the bottom of the new shaft is now in a distance of 325 feet. The rock is still so hard as to make blasting necessary.

TWIN.—This mine, below the Dovil'e Gate, is now looking exceedingly well, about 20 tons per day of ore that will average $35 per ton being taken out. The Atlanta, Sherman and Ione, all small mills, are now running on ore from the Twin.

SALE OF A QUARTZ MILL.—We are informed that Joseph Trench has sold his mill at Silver City. J. G. Foir and J. W. Wackay, of this city, are the purchasers, and the price paid was $50,000.

SIERRA NEVADA DIVIDEND.—Same of 6th: The Sierra Nevada Co. have declared a dividend of $2.50 per share. This is the first time in the history of the mine that a dividend has been declared. The next clean-up will be even better than the last, which was some 80 pounds of gold bullion. Enough ore is now in sight to insure even larger dividends for many months to come. The rock now coming out is the richest yet found in the mine.

BULLION SHIPMENT.—Total during the week, by Express, 9,002 pounds, of the value of $239,706.71.

HALE & NORCROSS DIVIDEND.—The Hale & Norcross have declared a dividend of $6 per share, payable on the 10th inst. The mine is looking well.

GOULD & CURRY.—The station timbers are now put in, and a drift east commenced, near the bottom of the shaft.

WHITE PINE.

EBERHARDT.—Treasure City *News*, May 31st: "We yesterday paid a visit to this mine. On the point between the Keystone and Original Eberhardt, a force of workmen are engaged blasting and breaking down a huge mass of rich chloride ore which crops out on the surface. Further to the southward is another force breasting on a level with the Keystone works, toward the main building. At this point also the ore comes to the surface, and is of high grade. There is, perhaps, not less than 800 ton of ore, of high and low grade, on the several dumps, and this amount is rapidly increasing, notwithstanding 20 to 25 tons are daily shipped to keep the two mills of the company, at Shermantown, in motion. The large tunnel or chamber leading from the original Eberhardt cut to the Blue Bell shaft, a distance of 100 feet through solid ore, which milled high up into the thousands, is on an average of about 12 feet in hight by 25 in width, and is securely braced with double sets of timbers on either side. Above and below this ample chamber one continuous mass of ore of fabulous richness meets the gaze. Along the entire length of the western wall in particular, is to be seen a stratum of chloride from one to four feet in width, uninterrupted in its course, save where it is occasionally supplanted by pure horn silver of such vast richness that the mark of the pick and drill are clearly discernible as if stuck into a pig of lead."

The same of 3d says: We understand that the Eberhardt yesterday struck a splendid body of high grade ore in the Keystone shaft, at a depth of 145 feet.

Same of 4th: The Keystone shaft in the Eberhardt mine, unearthed an immense chunk of horn silver yesterday, about the size of a flour barrel.

C. C. F. COMPANY.—*News*, May 4th: The mine of the Consolidated Chloride Flat Company is the most thoroughly prospected in the district. It is honey-combed with drifts. We visited it yesterday. In all of the drifts through which we passed, one continuous mass of the finest grade ore was to be seen above and below and upon either hand. It is impossible to estimate the extent of the deposit, notwithstanding the great number of tunnels and drifts that have penetrated it in every direction, for none have yet reached the termination of the ore. To close up, in a word, the whole of Chloride Flat appears to be literally bursting with one vast mineral deposit of of the rarest value, and to the Consolidated Chloride the most of it belongs.

CONSOLIDATED HIDDEN TREASURE.—Two inclines are sunk on the ledge, in which developments of the most encouraging nature are being made.

MILLS.—*News*, 3d: Work on the Metropolitan Mill, at Shermantown, progresses finely. The ten pans are all in position, and yesterday the huge battery blocks were being placed. It is believed that this mill will be ready to steam up within the next twenty days....We understand that the Stanford Brothers have determined to immediately erect a 30-stamp mill near the town of Eberhardt for the reduction of the ore from the California mine....The 8-stamp mill of Moyle & Sears, near Shermantown, started up on the 1st.

We understand that the old Manhattan mill, brought from Washoe by the Consolidated Chloride Company, will steam up either to-day or to-morrow, adding 20-stamps to the milling capacity of White Pine.

The price of reducing ore, is $30 per ton, delivered at the mill in quantities of 100 tons or more.....Same of 4th: Work commenced Monday, in 'Eberhardt City,' Menken Cañon, to level the ground for a large, new mill, which the California and Aurora Companies will erect as rapidly as possible.

MILL FOR PATTERSON.—Messrs. Murphy and Seal, left a few days ago for Patterson District, with a view of making arrangements for the erection of a first class quartz mill in that section.

WORK RESUMED.—In our daily rounds, on Treasure Hill in particular, we notice preparations being made in all directions to commence the work of prospecting in earnest during the Summer campaign. Yesterday the Golden, Napoleon and South Beecher Companies, each started up work.

ORE SHIPMENTS—Will not now fall short of 200 tons per day. This will be doubled as soon as mining facilities are provided.....The Hidden Treasure yesterday shipped for milling, 50 tons. A portion goes to the Newark mill, and the ballance to one of the mills at Hamilton..... The Rattler Company will commence shipping ore on Monday next for milling, a contract having been effected with Messrs. McCone & Dunn for the reduction of 200 tons. About half of the amount is now on the dump.....A thousand pounds of ore arrived yesterday from San Francisco District, situate 65 miles to the southeast. It is to be shipped immediately to San Francisco, where its value is to be tested.

BULLION SHIPMENTS.—3d: Agency of Bank of California shipped yesterday and day before, fifteen thousand dollars bullion, for the Consolidated Chloride Flat Co., and eleven thousand dollars for the Aurora South and other mines....The following shipments were made yesterday: By Wells, Fargo & Co., from Shermantown, four bars valued at $6,580.08; from Hamilton, 6 bars, valued at $8,299.44; by First National Bank, Hamilton, one bar valued at $1,828.99, and by Agency of Bank of California of this city, $26,000, making a total of $42,708.51.....We saw yesterday, at Hamilton, the first brick turned out by the Treasure Mill. It was the result of ore worked from the Nevada mine, and bore the following inscription: No. 1. Oz., 14,028,90; fine, 990: value, $1,828.99; J. W. Bailey, agent. It is to be sent overland, to the President of the Company, in Indiana.

PENNSYLVANIA TUNNEL.—This has penetrated the hill 60 feet, and advances two feet per day. It is believed that 50 feet additional will be sufficient to tap the Sanderson ledge at a depth of 100 feet from the surface.

WHITE PINE WATER WORKS.—Work is progressing satisfactorily. The tunnel, 370 feet in length, through the hill north of this city, is already completed, and the pipes are being delivered on the ground. Much of the machinery to be used in raising the water has also arrived.

A fine body of ore has been struck in the Good Omen, on Pocotillo Flat.

OREGON.

GOLD ON THE MOLALLA RIVER.—*Oregonian*, May 29th: Wm. Sprague has discovered rich surface diggings along the bed of a small tributary of the Molalla river, called Lost Coffee Creek, which will pay from $3 to $5 per day to the hand. These diggings extend along the creek eight miles. The creek runs through a deep cañon in the Cascades, inaccessible to horse or wagon. Sprague has sold one sluice right and 300 feet along the creek to Wa Kee, of this City, for $750, who will place a large number of Celestials to work. The mines are 58 miles east of Oregon City, far back into the Cascade range.

WARREN'S DIGGINGS.—The *Commercial* has the following extract from a private letter May 9th: We are still at work on the Rescue and the prospects are flattering. We have a shaft about 70 feet deep—good ore all the way down. The gold worth $13 per ounce. We will have 50 tons of choice ore for milling the last of this week. It cannot yield less than $70 per ton. The ledge grows larger and wider as we go down.

WYOMING.

Sweetwater Mines, May 26th: Atlantic Gulch, mined a short time last year and abandoned, has been struck richer than ever and the whole gulch re-located. One nugget was found weighing $57 53. The gold is all coarse. Mining is progresing to some extent in Rock Creek.

A splendid Ledge has been discovered on the west side of Willow Creek, and called the "Mineral Wealth".

Pease & Co., are running their arastra on Mary Ellen rock.

Foreign Patents.

Henry Bessemer, the inventor of the Bessemer steel process, has lately applied for five British patents. The first is for improvements in the manufacture of malleable iron and steel, and in furnaces and apparatus employed for their fusion and treatment.

Second. Improvements in the construction and mode of working furnaces and apparatus employed in fusing malleable and wrought iron and steel, and pig or other carburets of iron, and obtaining cast steel or other malleable iron therefrom.

Third. Improvements in the conversion of fluid crude iron and molten pig or other carburets of iron into fluid homogeneous malleable iron and steel, etc.

Fourth. Improvements in the treatment of crude or pig iron and other carburets of iron, and in the apparatus employed for such purposes.

Fifth. Improvements in the construction and mode of working blast furnaces employed for smelting the iron ores, and in the mode of employing and utilizing the gaseous products of such furnaces, and also in the construction and mode of working blast engines employed to force air into blast and other furnaces.

Railroad Building in the Metropolis and the Wilderness.

The following is the commencement of an article upon the Pacific Railroad in *Engineering* for May 14th: "Two years after the Bill for the Metropolitan District Railroad was sanctioned, the charter of the Pacific Railroad had become a law of the United States, and in less time than has been required to build some ten miles of City line, nearly 2000 miles have been laid across the American Continent. These two undertakings present the strongest possible contrasts of engineering construction, the one taking its course through a densely populated Metropolis, displacing its thousands of artizans and its hundreds of shopkeepers; the other penetrating through wild deserts, disturbing but the deer and buffalo herds, and the predatory hands of Indians. This one requiring ground, each inch of which has to be valued, bought and economized; that one acquiring land grants by millions of acres.

The Metropolitan Railway, built foot by foot, through all the difficulties of surrounding property that had to be maintained, through the complicated network of sewers, gas mains, water conduits, telegraph tubes; the Pacific Railway advancing in its progress as much as six miles a day, across the level prairie, unhampered by any difficulties save those of nature, and costing little more than 7000*l.* per mile.

On Promontory Summit, beyond Salt Lake, 1083 miles west of the Missouri river, and 672 miles east of Sacramento, the last link of the great iron chain was added on the 8th of thie month; the last 20 ft. rail required to complete the 1850 miles was secured to its sleepers, and the great work, no less important than the severance of the Isthmus of Suez, far more promising in its future, and more fraught with difficulty to its engineer, was practically finished."

DR. HAYES.—The Geographical Society of France have decreed a gold medal to Dr. Hayes, of the United States, for his eminent services in the work of Arctic exploration and diacovery. The President of the society, with a deputation of members, waited upon General Dix, the American Minister, and presented the medal.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, June 12, 1869.

Notices to Correspondents.

Electro-Metallurgist, San Francisco.—Faraday has found, as a general rule, that the salts of the magnetic metals are themselves magnetic, provided that these metals entered into the hase of the salts. As an instance, crystals of proto-sulphate of iron placed in a thin glass tuhe, which is not magnetic, will cause tho tube to point axially. Such salts will preserve their magnetic properties, even when dissolved in water. If the solution is placed in a glass tuhe constructed for this purpose, so as to retain the contents when placed horizontally, when suspended by a loop of copper wire and a few fibres of silk in that position, will be found to take an axial position hetween the poles of a magnet. Solutions of sulphate of nickel and sulphate of cohalt act in a similar manner to the solutions of the salts of iron.

Saturn, Sacramento.—The age of the glohe we inhahit cannot he expressed much better than in the words of Professor Owen, who has observed that "the time which it has revolved in its orbit is so great that present evidence strains the mind to grasp such eum of past time with an effort like that hy which it tries to realize the epace dividing that orhit from the fixed stars and remoter nebulæ. Yet during all those eras that have elapsed since the Camhrian rocks were deposited, which hear the impressed record of creative power as it was then manifested, we know, through the iuterpretatiou of these 'writings on stone,' that the earth was vivified by the sun's light and hoat, was fertilized by refreshing showers, and washed hy tidal waves."

Ku-li.—The Yang-tse-Kiang is called by the Chinese "The Girdle of China," as it traverses the whole of the center of China. No river in the world possesses ou its banks such a numerous population, estimated at upwards of one hundred millions of inhabitants, or more than three times the number found in the Uuited States. On its shores are to be found moro than 100 cities, of the first, second and third classes, and 200 towns aud villages. From its source in Thibet, to its embonchure, its course extends over 3,000 miles, and the basin drained by it covers 800,000 square miles. Hang-Khow forms probably the greatest exchange mart throughout Asia.

Aquatic.—Great sea-waves have been treated in the ablest manuer by Professor Bache. The article alluded to cau be fouud in a work published by him, in company with a paper "On the Tides of the Atlantic and Pacific Oceans." These works were puhlished at New Haven, in 1856.

Immense quantities of bat guano have been found on Lookout Mouutain, Tennessee. It is believed to be superior to the Peruvian guano.

The vines in Franoe are diseased, aud in many parts of the wine districts tho crop e said to be totally destroyed.

Under-Current Sluicing and Sulphuret Saving at North San Juan.

In addition to what was said in the Mining Press on this subject last week, we give the following particulars:

The American mine, situated a mile below San Juan, nearer Sebastopol, is 1,500 feet above the Middle Yuha, and is one of the hest paying, best managed hydraulic mines in the country. Its outlet is through a cut and tunnel, in granite, of 2,200 feet in length; after which there is about half a mile more of rock-paved sluicing to the river. For sluice bottoms, granite hlocks 10x8x4 inches are to a coneiderable extent used in the place of the ordinary wooden blocks; but, unless these are set vertically with the cleavage plane, they are not much to be preferred to wood, except in the matter of durability, which furnishes an ample offset to the expense.

Certain strata in the mine are of the hard, compact, more thau usually rich pyritiferous cement, which is characteristic of the ancient river deposits. This, it has been found, after long experience, yields in the ratio of ahout $900 when crushed and amalgamated in a stamp mill, to $500 when treated in the ordinary manner by sluice amalgamation. Stamping direct is therefore resorted to in the working up of this strata. The rest is washed through a total of three-quarters of a mile of rock sluicing, with a grinding head, as stated, of 1,500 feet.

Bnt instead of restiug content with this very thorough treatment, Mr. Brown, the foreman, has hrought into use, in the course of the descent to the river, seventeen under-current sluices, each from forty to fifty feet in length, and from twelve to twenty feet iu width, two of which are under-current sand sluices, intended mainly to catch sulphurets.

The plan is to clean up the rock sluice helow the first undor-current sluice in the series as seldom as possihle, relying upon the more delicate, broad distrihuting and nicely-adjusted undor-current sluices, paved with wooden blocks and longitudiual slats, for the arresting aud amalgamation of the gold. The main sluice, down to and including the first under-current at the mouth of the tunnel, is paved partly with wood, and is cleaned up once in fourteeu days, or an average, including stoppage for cleaning up and repairs, of every three weeks. The nexteight uuder-current sluices aro cleaned up every other run, or each of them onco in twenty-eight days, and in such a manner as to alternate, four of them heing cleaned up at the end of one run, and the four alternating ooes at the uext. The remainiog five or six amalgamating sluices are cleaned up once in every three months. The sand sluice (only one as such heing at present ruuniog) is cleared off whenever the boxes are deemed sufficiently filled.

As the latter arraugement differs from the other under-current sluices only in substituting for blocks, elats aud quicksilver, a succession of cross slats, or hoards, eeveral inches in hight, and about four feet apart, behind which are caught the heavier sand and sulphurets, whilst the lighter are washed away again into the main sluice,—nothing more is uecessary in cleaning off than to remove the cross slats and let on a stream of water for a few minutes. The concentrated pyritiferous sand obtained was formerly ruu down iu a separate couduit to the sulphuret mill, built Mr. I. S. Crall, at the foot of the ravine. It is now sized in Germau sizing boxes, aud thence let into one of Jenning's sulphuret concentrating sluices (described heretofore), which throws off the lighter half of the matter into the main sluices, while the comparatively pure sulphurets only are carried down to the mill.

Here they are wasbed through a shaking sieve, aud grouud up in the presence of quicksilver iu a Crall'e "waltziug pan," which does not differ in principle from the Hanshrow planetary pan, heing merely a very large excellently devised grinder and separator comhined.

Touching the assay value of concentrated "water sulphurets," as the miners designate all which are not "quartz sulphurets," the only test that has heen made has resulted in $40 to the ton. For some reason or other, the number of tons actually worked does not appear to have been very large thus far.

To give an idea of the efficiency of the under-current amalgamating sluices, the first in the series cleans up from $300 to $800 to the man, in exact ratio to the clean-up of the sluice ahove it; and the very last one in the series, at the river's edge, yields $50 to the ton. The river tailings do not pay Chinamen to work.

From seventeen to eighteon tanks of quicksilver, altogether, are in the sluices at once; of which about half a ton is lost to every clean-up. The tank holds from seventy-five to eighty pouuds, and costs about fifty dollars.

The owners of the Amorican mine—Messrs. J. H. Brown, A. B. Swan, George Spooner, S. M. Crall, etc.—have spent about $20,000 on the processes to work tailings, with the foregoing results; which, thongh they do not appear to be fully satisfactory in the matter of returns, are sufficiently so to have warranted all the attention and outlay that has hcen hestowed upon the subject.

Improved Prospects in Humboldt County, Nevada.

In further evidence of the reawakeuing of mining operatious in Humboldt County, we notice the organization of tho Great Central G. &. S. M. Co., whose existence arises from the fact just discovered that it will pay to ship the Humholdt cupriferoue silver ores to this city by railroad for Swansea. The mattor has been nicely figured down, and there is a margin clearly in favor of the miners, on ores assaying only in the neighborhood of $100 iu silver and gold. Copper of from 7 to 50 per cent. is tho ingredient that necessitates shipment, and that renders the ore at the same time especially marketable at Swansea. The Central Company have commenced operations on the Juno ledge, Battle Mountaiu District, distant from Battle Mountain station about six miles, to which reference was made under "Minerals, etc.," last week.

The White Cloud miners are also at work, and in excellent spirits. A batch of ore brought down by the railroad quite recently, assays $875 Ag., $290 An., and 48 p. c. Cu., or ahout $2,000 per ton, and is under test of smelting at North Beach.

Twenty-five Per Cent.—According to a certificate shown to us by Mr. Constahle, signed by L. B. Hopkins, Superintendent, and Dan. Abell, engiueer of the Nevada mill, Virginia City, the Carvalho superheater introduced there eome months ago, has resulted in a saving of 25 per cent. of the fuel previously required. All is effected by so simple an invention as a coiled hot wire in the hot steam tube which prevents the steam from partly condeusing to water, which of course is uo longer expansive.

The Colorado Canon.—Professor Powell's exploring party did not succeed in getting down the Colorado Cañon last season, it appears. Four portable boats were to be procured hy him this season in Chicago, and brought out by Pacific Railroad to Green River, for a fresh etart. Mrs. P. does not accompany the second expedition.

Distinguished Visitor.—Hon. Wm. H. Seward is now ou his way overland to this State, in accordance with a long-cherished purpose to visit California. He will probably deliver the address at the alumni meeting at Oakland.

Bedrock Tunneling.

Three or four great tnnnels are going into the ancient river channel at Smartsville and Timbnctoo, where mining appears to he carried on still as vigorously and as profitably as ever. Six men and a blacksmith, working night and day, are, in O'Brien's tnnnel, accomplishing with the nse of giant powder, at present, ahout six inchee a day, the rock being diorite, or "hlue granite." In the old tunnel into this claim the rock was found so hard that a few rods of tunneling cost thousands of dollars. Mr. O'Brien pays $40 a foot. By following qnartz veins, however, the cost has in several cases been reduced two-thirds. Deep placer mining seems to all intents and purposes as permanent an interest as vein mining, for there is no greater likelihood of the former heing any sooner exhausted. At the head of the Smartsville Consolidated claims, to he opened in depth hy the Crary tunnel, (which ie two-thirds completed, only 800 feet remainiog) there will soon he exposed a vertical bank of auriferous gravel over 300 feet in hight, which is to be worked away if possible through tho ridge to Mooney's Flat, the grouud baving been proved to he all rich. How much lava cement cappiug can be dealt with, or to what extent tunneling underneath like ridges wonld be found practicable or economical, are questions that must receive atteution soon iu this vicinity.

Farming Engines.

Messrs. Palmer, Koox & Co. havo lately heen hurried with work on portahle engines for driving threshers and other machinery, aud are making some improvements in the same, rendering the engines more euitable to the times and locality. This class of machinery is being rapidly adopted into favor by California farmers.

Tho agricultural locomotivo engine, which has been huilding at tho Goldeu State Foundry for Byrou Jackson, of Woodland, Yolo County, made its first trial on Thnrsday last, whon steam was got up for the purpose of driving it to tho wharf of the steamer New World, where it is to be shipped to its destination. This engine, which is tho first of its kind that has ever beon built on this coast, is a modification of Aveliug & Porter's (English) eogine. It has an 8-iu. cylinder with 12-in. stroke, link valve motion, and will work up to a maximnm of oighteeu horse-power. The driving wheels are six feet in diameter with twelve inch face, aud are geared to the eugine by chaiu in a ratio of 12½ to 1. The engine is steered aud assisted, if need be, by two horses, and attains a speed of 2½ milos per hour. The weight is seven tons without water, and about nine tons with water in both boiler and tank. The tank contains a supply for ahout three hours' run. This constructiou admits of moving a heavy engine from placc to placo without a large team. We hope soon to report the building of draft engines for common roads.

Cheap Stamp Mill.—A very cheap stamp mill of redwood, and having only the lower end of the stamp and the dies of iron, may be seen under construction in frout of John Clark's carpenter shop, Harrison street, near Third. It is for a Mr. Eastman, somewhere this side of White Pine, in Nevada. The extreme simplicity of a wooden stamp mill, as well as its durability when properly coustructed, are points worthy of a little attention by those who own good mines, yet who are in want of capital.

Grasshoppers have made their appearance in large numhers in Idaho, and it is feared that they may do great damage to the coming crops.

Oregon Grain Crop.—It is estimated that the grain crop of Oregon will be 33 per cent. greater this year than last.

The Grass Valley Strike.

The strike at Grass Valley still holds ont, and is beginning to be felt as a serious matter by the merchants and business men of that town. They, together with the miners themselves, will be the only parties who will be seriously punished by the untimely and ill-advised movement. In the meantime the wide notoriety given to the affair, will operate as an advertisement to the cheap and skilled mining labor of Europe, to seek in this State, at lower than present prices of labor here, a far more remunerative occupation than they can find at home. In the end, the mill owners, for whom punishment alone was intended, will be the only parties who will reap solid and substantial benefit.

The strikers are still holding meetings, and the report is they are increasing in numbers. They exhibit no disposition to be noisy or demonstrative; but there is evidently a deep seated determination to carry out their programme at all hazards. The way they operate may be inferred from the following paragraph from the *National* of the 2d inst: "Day before yesterday a man who had been hired at the Empire mine, came out of the shaft, changed his clothing in the dry house, and then started home. In a few minutes he returned and told the undergrounnd foreman that he could not work any more, as he had just been warned not to do so."

This is a pretty strong use of "moral suasion," and one which may lead to difficulty. The mine owners are quite as firm as the miners; but as the amount of the stake played for, and the ability to hold out the longest is altogether on the side of the former, there is no uncertainty in the mind of any intelligent man, as to what will be the ultimate result; although the road thereto may be just what the latter may choose to make it.

The Bellingham Bay Mines.—The fires in these mines are again in full progress, and are reported to be extending. No sooner had the waters which drowned out the firea of 1866 been pumped out, (a nine months' job), than new fires were ignited by spontaneous combustion, the work probably of decomposing iron pyrites. Between the fire and water there appears to be but little choice at Bellingham Bay. Nanaimo shipped 1,372 tons of coal in April.

White Pine News.—This daily comes to us enlarged in size, and with a new and handsome head. The heavy paper upon which it is printed, and its comfortable appearance generally, indicate anything but failing mines in the region upon which its hopes are based. It evidently believes,—as well as says,—that White Pine is all right yet. Success to it.

The First Fruit Overland.—Fifty pounds of apricots, grown by W. Carpenter, at Smartsville, Yuba County, were shipped overland a week ago. This will probably be the first California fruit seen in the Eastern market, the climate of the foot-hills in that region being noted for its peculiar adaptation to early fruit raising.

Idaho Transportation. — Two new places on the Pacific Railroad are spoken of as depots for Idaho. Indian Creek on the Central Pacific Railroad, 240 miles from Boise City, and Corinne on the Union Pacific Railroad, 200 miles from Boise City. The latter place has already a population of 1,500, and Bear River Valley adjacent is claimed for ranches twenty miles.

Mr. Sutro, the originator of the Sutro Tunnel project, arrived in this city a few days since. He thinks he will soon be able to commence work on the tunnel.

Continental Life Insurance Company, 203 Montgomery street, corner of Pine.

California Academy of Sciences.

At the regular meeting of the Academy, on Monday evening last, Edward Cohn, Hugo Eloesser, Arthur Eloesser, Dr. J. Van Zandt and Major George H. Elliott, U. S. A., were duly proposed as resident members.

Some limestone fossils were presented from W. H. Sears, Treasure City, and crystallized gold in crystallized quartz, from Mr. Warren, of Amador.

The resignation of T. A. Mudge, as Recording Secretary, was received and accepted.

Mr. Yale, as Committee on Outside Lands to be conveyed by the city to this Association, asked for further time in order to make a further abstract of the title. He desired that Col. Ransom be associated with him in order that a proper survey of the land be made to accompany his report. On motion, Col. Ransom was added to the Committee.

President Blake referred to a visit he had recently made to Petaluma. Whilst there he visited the locality where the bones of a mastodon were found. He saw only some small pieces, the large ones having been previously removed to San Francisco.

He examined the effects of the earthquake of last October upon the country around, and found its force more distinctly visible in the rocky portion or mountain range, while the marsh or alluvial soil was comparatively undisturbed.

Disturbances among the Elements.—New York harbor and vicinity was visited by a severe tornado on the 28th ult. It took up such quantities of dust from the beach at Long Branch as to completely envelop vessels passing at the time a full mile from the shore. Several vessels lost spars and sails. In the Sound, near East river, a regular water-spout was formed, and a row-boat was taken up a hundred feet or more high, carried over a boat-house, and landed quite a distance beyond.

About the same time a terrible hurricane visited the Miami Valley, Ohio, doing a large amount of damage. Hailstones are said to have fallen as large as a man's clenched fist. The overland mail of the past week also reports the occurrence of quite a severe earthquake shock in Georgia. The vibrations lasted ten seconds. Another earthquake is reported at Helena, Montana.

Historical Sketch.—We have received from the publishers, J. H. Carmany & Co., a neatly-printed pamphlet of forty pages, giving a Historical Sketch of Calvary Presbyterian Church, with a full report of the late dedication services of the new church, including the sermon on that occasion by Dr. Wadsworth. The pamphlet is accompanied with a very fine wood engraving of the new edifice. Aside from its value as a brief history of one of the oldest and most important religious organizations on the Pacific Coast, the mechanical execution of the pamphlet is also a credit to the office from which it has been issued.

We hereby acknowledge the receipt of the Annual Report of the Crown Point G. & S. M. Co., for 1868-9, which has been issued in the highest style of the art typographical; the 14th Annual Report of the Odd Fellows' Library Association; a report of the celebration of the 50th anniversary of Odd Fellowship, under the auspices of the White Pine Association at Shermantown, and a Lecture on Sanitary Reform by F. M. Shaw.

Cost on Sleeping Cars.—The charge for sleeping cars on the Central Pacific is $5 extra for each half section, including two seats and a bed for two, from Sacramento to Promontory Point; or $10 for seats and beds for four. The cost of passage ticket to the same point is $50—all in gold. The first "Pullman" sleeping and dining car arrived at Sacramento on Thursday evening last.

In England a farmer does not work nor own land—he only hires it. He who does the work is neither farmer, contractor, nor proprietor.

Mining Progress.

New Gold Mines.—Col. Drew, who left Sacramento, some two months since, with a party, on a scientific prospecting tour, has returned to that city, according to the *Bee*, and reports having discovered gold and silver at the head of the South Fork of the Owyhee. He reports the finding of some very rich rock. The Colonel returns for supplies and an efficient outfit for developing the ledges which they have located. This locality must be about 120 miles north, of Austin, and is probably a southern continuation of the mineral belt of Southern Idaho.

New Mines in Arizona.—A party of miners arrived in this city a few days since from a locality in Arizona, where they have been prospecting and mining about two years. They bring with them rich specimens of gold, silver and copper. Their object is to organize a company of about thirty experienced miners, to return and work the newly-discovered diggings. The party will be armed with revolving rifles, as the neighborhood is infested with Apaches. Further information in regard to these mines can be obtained at 413 Kearny street.

Work to be Resumed on a Copper Mine.—The Nevada *Gazette* says that work is about to be resumed on the Thorp or Fox copper mine, the discovery of which, some two or three years ago, created considerable excitement. A shaft was sunk at the time to the depth of 155 feet, and considerable quantities of ore extracted, some of which was brought to this city and sold for a good price. The paying ore, however, was found in small seams, of from two to ten inches in width, while the width between the walls is a little over thirty feet. Mr. Thorp is confident that further explorations will develop a large body of ore, and he is now negotiating for a small engine, with the purpose of sinking 200 feet deeper. The engine will be used only for hoisting purposes, as there is no water in the mine to contend with. Mr. Thorp has secured from the railroad company a title to the land on which the mine is situated.

New Almaden.—The Grass Valley *Union* is authoritatively informed that the expense of labor in the New Almaden quicksilver mines, which has heretofore been about $40,000 a month, can, by the use of Giant powder and single handed drills, be reduced to $30,000. The miners object to the change, and it is probable the mine will be closed until men can be found who will work the new explosive. Mr. Butterworth, the superintendent, has recommended such a course.

Coal Oil in Oregon.—Professor Veach, now temporarily in Oregon, has discovered a coal oil spring near Albany, on the farm of Mr. C. L. Burkhart, of that State. Whether or not the oil exists in sufficient quantities to prove of any benefit has not yet been determined, owing to the nearness of the spring to the Willamette River—the water being the only barrier to a thorough examination.

Big Nuggets of Copper.—A large mass of native copper weighing about 3¼ tons, was recently shipped from Lake Superior. It required four span of horses to haul the ponderous weight to the dock. This, we believe, is the largest single mass of native copper ever taken out from a mine. A few days afterwards another nugget, weighing 2¾ tons, was shipped from the same point.

Zinc.—The Lake Superior *Miner* says: "We have scarcely begun to raise the ores of zinc, but the metal abounds in all quarters. Its discovery in workable quantities caught science napping, but until she comes up with some economical method of freeing the ores from sulphur, this element must, to a great extent, remain in its native bed."

Accident Fund—A Good Idea.—At the North Star mine, Grass Valley, every miner pays fifty cents a week into what is called an Accident Fund, to be disbursed to disabled or sick miners and their families. The disbursements for April last were $381. The idea is a most excellent one, and should be generally introduced. The Reese River *Reveille* says that a similar fund was established at the Florida mine, a year or two ago by Major Sherman, the then superintendent.

Diamonds.—It is said that a lucky miner has found two or three very valuable diamonds in the gold mines of Nova Scotia, one of which is valued, in the rough, at $300,000.

Company Transactions.

New Incorporations.

The following new companies have been incorporated:

Land Reclamation Co.—San Francisco. June 8th. Capital stock, $12,000,000; Trustees: George G. Roberts, A. C. Peachy, Lloyd Tevis, Sol. Heydenfeldt, and — Dorsey.

Western Land Association.—San Francisco. June 8th. Capital stock, $60,000, with privilege to increase to $240,000. Trustees: L. H. Foote, W. Andrews Navel, C. W. Wilson, J. Rolph, E. Chattin, J. Lloyd, and G. S. Ingersoll.

Pooonip & Othello M. Co.—White Pine, Nev, June 9th. Capital stock, $1,600,000. Trustees: G. W. Beaver, Mark Livingston, George Oulton, F. F. Low, and C. L. Low.

Prince Imperial M. Co.—White Pine, June 9th. Capital stock, $1,400,000; 14,400 shares, $100 each. Trustees: Paul Rougset, F. F. Oison, A. W. McPherson, F. Levey, and R. R. Hammond.

Merchants' Homestead Association.—San Francisco. June 9th. Capital stock, $54,400; 136 shares, $400 each. Trustees: William Monahau, T. P. Riordon, John Calvert, C. H. McCurrie, Emlen Painter, J. G. Burt, and G. C. Randall.

Stockton Park Homestead Association.—San Francisco. June 10th. Capital stock, $99,000; 60 shares, $1,650 each. Trustees: H. H. Bancroft, Geo. L. Kenney, W. H. Knight, P. J. Merwin and G. A. Shurtliff.

Seal Rock G. & S. M. Co.—White Pine, Nevada. June 10th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: E. V. Sutter, L. M. Gautier, H. J. Tilden, Wm. Cotter, and Gabriel K. Stevenot.

Arizona Mineral Exploring Organization.—White Pine, Nevada, June 10th. Capital stock, $1,500,000; 500 shares, $3,000 each. Trustees: F. E. Ketchum, W. H. Trainor, J. S. Maxwell, Daniel McLean, A. P. K. Safford, Felix O'Brien and Matthew Stakum.

Meetings, Elections, Etc.

Wheeler M. Co.—White Pine, Nevada, June 7th. Trustees: L. Sawyer, S. F. Reynolds, M. H. Myrick, C. W. Jones and H. P. Parker.

Hearst M. Co.—White Pine, Nevada, June 7th. Trustees: A. Hayward, D. D. Colton, J. O. Earl, S. M. Wilson, and Geo. Hearst. President, D. D. Colton. Secretary, Charles E. Johnson.

San Buenaventura Commercial Manufacturing and Mining Co.—June 8th: President, Edward Conway. Secretary, W. L. Ustick; Trustees: W. H. Patterson, E. R. Carpentier, F. F. Vassault, Edward Conway and C. J. Hutchinson.

Ascendant M. Co. June 8th. President, L. L. Alexandor. Vice President, Albert Shepard. Secretary, D. McLaren.

Pinto M. Co.—June 8th. President, E. J. Moore. Vice President, R. C. Johnson. Secretary, D. B. Arrow Smith. Trustees: E. J. Moore, R. C. Johnson. Peter B. Forster, H. B. Laugley, R. Mayrisch, C. P. Schmidt, and David H. Jackson.

Paul Traot Homestead Association.—San Francisco, June 7th. President, H. F. Williams; Vice President, S. S. Arnheim. Trustees: H. A. Crane, A. B. Stout, L. Gerstle, M. L. Citron, W. M. Larmour, John Burns and T. H. Hatch. Treasurer: W. C. Ralston; Secretary, B. F. Wilde.

Geological Changes.—A redwood log, two feet in diameter, was struck, a few days since, at a depth of over 200 feet below the sea level, in boring an artesian well upon the place of Judge Billings, in Santa Clara. When that log was growing, the ground upon which it stood must have been at least 250 feet higher than it now is. We have here indubitable evidence of a subsidence of the Santa Clara Valley to that extent. The lateral pressure which elevated the mountains on either side of that valley must have depressed the intervening country, just as in the shrinking of an unripe apple, the skin rises in ridges parallel to corresponding depressions.

Potatoes.—Every bushel of potatoes raised, takes from the soil a quarter of a pound of potash. This suggests application of ashes to potato ground.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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NEW GRINDER AND AMALGAMATOR

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AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

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Pacific Iron Works.

First and Fremont Streets,
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Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Plans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hausbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.
San Francisco, May 1, 1868. 18v16tf

Globe Iron Works,

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KEEP & BARGION,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.
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CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Sclls and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

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BENJAMIN ELLIOT,

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Manufactures Foundry Facings constantly, from choice coals. Bituminous, packed in tight sacks. Anthracite and Charcoal ground together or separate, packed in whole or half barrels. Black Lead, Coke and Soapstone ground to order. Foundrymen located far from choice material, can rely on having superior Facings forwarded to order.
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COPPERSMITH,

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All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.
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MACHINE WORKS

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Manufacturers of Machinery for

QUARTZ MILLS. FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
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Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS
OIL WELL TOOLS, ROCK BREAKERS,

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Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE.

The most compact, simple in construction, and durable, of any Engine in use.

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STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

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McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers**, with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, height of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

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WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

THE RISDON

Iron and Locomotive Works.

Incorporated, April 30, 1863. Capital, $1,000,000.
Location of Works, Corner Beale and Howard streets,
SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Nevoc, Binsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

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All work in their line attended to with promptness and dispatch.

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Lloyd Tevis, John N. Risdon,
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Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 24v17-qy

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NOS. 109 and 111 MISSION STREET,
Between Main and Spear.

New and second-hand

Engines and Boilers,

FOR SALE.

Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

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New and Improved

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The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

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Shingle Machines

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Particular attention paid to Repairing.

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Construct and Repair every description of

Stationary and Marine Engines, Mill and Mining Machinery.

Special attention given to Repairing Machinery.
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IMPROVED FIRE-PROOF SAFES,

FIRE AND BURGLAR-PROOF SAFES,

Of a superior make. manufacturer of the celebrated

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BANK VAULTS AND SAFES,

Of every description, made to order at short notice. A large stock of SAFES of all kinds constantly on hand. Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the
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129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,
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Steam Engine Builders and Makers of all kinds of Machinery.

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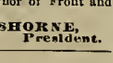
COMPANY.



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" CHRYSOPOLIS.....CAPT. A. FOSTER.
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Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville Colusa, Chico, and Red Bluff.

Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE,
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For Sale Cheap!

Entirely New and of Modern and Approved Style.

For particulars apply to or address this office.

Mining Progress.

THE CALIFORNIA PACIFIC, connecting Vallejo with Marysville, and thence mountainward, is being pushed ahead with vigor. Measures are also being taken to secure whatever business may be brought to the main trunk by means of branches. With this end in view, arrangements have been made with the Napa Valley road, by which that road will hereafter be run in perfect harmony with the California Pacific. This latter road will in a few weeks reach the northeastern boundary of Yolo County, where it will cross the Feather River at Knight's Landing. The company intends to relay their track from Vallejo to Sacramento with heavy iron, in order to enable the trains to be driven with great speed, to meet the river opposition. The work of re-laying will go on gradually, so as not to interfere with the regular running of trains. The old iron will be used for branches, side tracks, etc. All the iron for the company's main road from Vallejo to Marysville has arrived.

SAUCELITO AND HUMBOLDT.—Work on this road has been suspended, whereat the people along the route are very much vexed, and pronounce its inauguration a trick of the projectors of the new town of Saucelito to sell their lots; which accomplished, they have no further use for the road, and stop work. There may be other roads more needed than this just at present, and those which do not interfere so much with existing monopolies; but a road will soon be called for over this route to meet the growing wants of this city for suburban residences, if for nothing else.

THE WESTERN PACIFIC.—Mr. Strobridge, the energetic manager of the Central Pacific track-layer, is now at work upon the Western Pacific, with a large number of men, between Oakland and Vallejo Mills. The employment of Mr. S. is a promising augury of the speedy completion of this last section, which is to connect the great overland railroad with this city. It is intended that grading and track-laying shall be pushed with increased energy on this end of the Western Pacific, and that the connecting rail with the Sacramento end will be laid at or near the crossing of the San Joaquin.

OREGON AND CALIFORNIA ROAD.—The Central Pacific Railroad Company appears to have entered in earnest upon the enterprise of the construction of a railroad from Marysville to Chico, having the Columbia River as its ultimate objective. Several lines have already been run between Marysville and the Honcut, to determine the most feasible route. Four or five surveying parties are now out on various parts of the line, one of which is on a route via Pitt river and Klamath Lakes, and the entire route to the Columbia river will soon be definitely located. Negotiations appear to have failed for the purchase of the Oroville road, as a part of the line, and the company appears to have commenced work upon an independent route to Chico, more direct than via Oroville. It is expected that a force will be put on sufficient to build the road to Chico the present season. Another season will be sufficient to reach Shasta. From that point northward towards Oregon, the work will be heavy; but the company that has built a road to Salt Lake in six years will not be materially retarded by anything between Sacramento and Oregon.

OREGON AND MONTANA.—A company is now seriously considering the matter of constructing a railroad easterly from the head of navigation on the Columbia, for meeting the growing demands of the Montana trade. The *Oregonian*, speaking of the project, says: "The navigation of the Columbia is established from the Pacific ocean to Wallula, nearly 300 miles in an air line. From here to Pen d'Oreille Lake is a distance of 250 miles. Over this distance a road can be built in quite a direct line, without encountering any serious obstacles. Then we are within easy reach of the heart of Montana." It is believed the parties who have the matter in hand are in earnest, and that they will soon commence active operations.

IDAHO.—The sale by the Union Pacific of all their rights west of Ogden, involves the abandonment by that company of their projected branch to Idaho; whereat the Idahoans are in much tribulation, lest they may have to "stage it" for years to come, to make their connection with the Central

Pacific, and the rest of the railroad world. If Idaho pushes on the development of her mines for a few years longer with the same success as has attended her efforts in the past, we presume the enterprising managers of the Central Pacific will be ready, at the proper time, to extend them all needed railroad facilities.

BRANCH TO DENVER.—The telegraph of Monday last says: Arrangements have been made by Gov. EVANS for the early completion of the Denver Pacific Railroad. He starts East to-morrow to complete a contract with the Union Pacific for laying the track and equipping the road.

DUTIES ON COPPER ORES, REGULUS, ETC. The duties on copper ores, metallic copper, and copper furnace products, under the recently established tariff are as follows: On all copper imported in the form of ores, three cents on each pound of fine copper contained therein; on all regulus of copper, and on all black or coarse copper, four cents on each pound of fine copper contained therein; on all old copper, fit only for manufacture, four cents per pound; on all copper in plates, bars, ingots, pigs, and in other forms not manufactured or herein enumerated, including sulphate of copper or blue vitriol, five cents per pound; on copper in rolled plates, sheets, rods, and all manufactures of copper, or of which copper shall be a component of chief value, forty-five per centum advalorem.

CALIFORNIA
BUSINESS UNIVERSITY,
204 Montgomery Street.

Full particulars regarding our Practical Course of Studie may be had by calling at the University, or by addressing
17v17-qvt1p E. P. HEALD, San Francisco.

ILLINOIS
SILVER MINING COMPANY
White Pine District.

Trustees:
JAS. H. CUTTER, B. H. FREEMAN,
E. H. SHAW, JAS. R. CARNISS,
DAVID BUSH.

The Company's Mine adjoins the celebrated "Silver Glance," and is in close proximity to the "Argyle," and other prominent mines of the District.

From developments already made, the Trustees feel justified in saying to their friends that this is one of the best opportunities ever offered for investment in this State.

For the purpose of further developing the mine, the Company has set aside a limited amount of stock, to be sold as a working capital, of which they now offer 1000 shares, at the nominal price of $2 50 per share, unassessable—the entire proceeds of which will be devoted to developing the mine.

The books of the Company are now open for subscription at the office of the Company, No. 432 Montgomery street, Room No. 1, first floor. By order.

JAS. H. CUTTER, President.
G. W. STEWART, Secretary.
15v18-2m

A GOOD INVESTMENT.
THE MOUNT MORIAH
Silver Mining Company,
OF ARGYLE MOUNTAIN,
White Pine District,
NEVADA.
Capital. - - - $300,000.
6,000 Shares, $50 Each.
FULL PAID AND NOT LIABLE TO ASSESSMENT.

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Superintendent at Mines.....CHAS. E. HARRIS

TRUSTEES:
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JOHN ROACH, Optician,
Has removed from 522 Montgomery street to
540 Washington street,
East of Montgomery.
Surveying Instruments made, repaired and adjusted
22v17-3m

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
Court Block, 636 Clay Street
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2v15-1qy

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GRAY & HAVEN,
ATTORNEYS AND COUNSELORS AT LAW,
In Building of Pacific Insurance Co., N. E. corner California an Leidesdorff streets,
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DR. KNOWLES, Dentist,

HAS REMOVED FROM MONTGOMERY to 331 Kearny street, west side, between Pine and Bush, San Francisco.
21v13-1y

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This elegant preparation is acknowledged by all who have used it to be the most efficient remedy for every disease of the
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Yet introduced to the notice of the public. Immediately on taking a dose of it, the patient will find a genial glow pervading his entire system, and its steady use for a short time will be followed by a healthy appetite and a good digestion, even in the case of the most confirmed dyspeptic.
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Or any of the manifold troubles caused by a diseased action of the stomach, this remedy is confidently recommended as a safe and certain cure.
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Pins—How They Are Made.

The pin machine is one of the closest approaches that mechanics have made to the dexterity of the human hand. A small machine, about the height and size of a lady's sewing machine, only stronger, stands before you. On the back side a small helt decends from the long shaft at the ceiling that drives all the machines, arranged in rows on the floor. On the left side of our machine hangs, on a peg, a small reel of wire, that had become straightened hy rnnning through a compound system of small rollers.

The wire descends and the end of it enters the machine. This is the food consumed hy this snappish, voracious little dwarf. He pulls it in and hites it off hy inches, incessantly, one hundred and forty hites to the minute. Just as he receives each hite a saucy little hammer, with a concave face, hits the end of the wire three taps and "upsets" it to a head, which l e grips into a conuter-sunk hole between his teeth. With an outward thrust of his tongue he then lays the pin sideways into a little groove across the rim of a small wheel that slowly revolves just under his nose. By the external pressure of a stationary hoop these pins roll in their places, as they are carried under two series of small files, three in each. These files grow smaller toward the end of the series. They lie at a slight inclination on the points of the pins, and hy a series of cams, levers and springs are made to play "like lightening." Thus the pins are pointed and dropped in a little shower into a hox. Twenty-eight pounds are a day's work for one of those jerking little automatons. Forty machines on this floor make 560 pounds of pins daily. These are then polished. Two very intelligent machines reject every crooked pin, even the slightest irregularity of form heing detected.

Another automaton assorts half a dozen lengths into as many hoxes, all at once and uuerringly, when a careless operator has mixed the contents of hoxes from various machines. Lastly a perfect genius of a machine hangs the pins by the head in an inclined platform through as many "slots" as there are pins in a row on the papers. These slots converge into the exact space spanning the length of a row. Under them runs the strip of pin paper. A handlike part of the machine catches one pin from each of the slots as it falls, and by one movement sticks them all through two corrugated ridges in the paper, from which they are to be picked hy taper fiugers in houdoirs, and all sorts of human circumstences.

An interesting inquiry connected with the above is—

WHAT BECOMES OF THE PINS.

This question has often been asked, hut we have never yet met with a satisfactory answer. Few persons are aware of the enormous consumption of the useful little instrument. The annual report of the Secretary of the Treasury, ten years ago, contained some interesting memoranda relative to manufactnres, furnished hy Hon. Phillip Allen, then Senator from Rhode Island, in which, among other things, he stated that the number of pins made per annum in the United States was two billions, six hundred and seven millions, three hundred and sixty thousand. Now the old question comes up for solution—what becomes of the pins? The population of the country was then twenty-six millions. Does each individual—man, woman and child,—consume one hundred pins a year? for that would be the average supply. But it is well known that it is only one sex who use pins at all. Does each example of the feminine gender consume two hundred pins a year? From habyhood to maturity, and from that to the grave, the passion for pins, it is admitred, is n part of woman's nature; hut we submit that this fact affords no satisfactory explanation of the disappearance of twenty-six hundred and seven millions of pins per annum. The questiou remaius—what *does* become of the pins?

THE ENGLISH PATENT SYSTEM.—The *English Mechanic* calls for reform. It wants a cheaper system, oue that will make patents more valuable, and less assailable. There is now a surplus patent fund amouuting to $2,000,000, out of which it is suggested that an industrial and inventor's museum should he estahlished and endowed. It is also urged that the present patent fee should be reduced one-half. The injustice of charging such exorbitant fees is shown hy the surplus which has accumulated.

ANOTHER SHIP CANAL.—The cutting of a great ship canal from the Bay of Biscay to the Mediterranean is projected. The cost is estimated at ninety millions of dollars, and the time required at six years.

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

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BROWNE, ROSS—Mineral Resources of the Pacific States. San Francisco, 1868..... 4 00

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MINING AND SCIENTIFIC PRESS.—This useful and scientific journal has entered upon its eighteenth volume. To the scientific, mechauic, and practical men of all classes it is almost invaluable; and we are glad to learn that it is increasing in patronage every day.

The publishers, Dewey & Co., Sau Francisco, say the present volume shall be superior in all respects to its predecessors.

The terms are $5 in advance, $3 for six months.—*San Bernardino Guardian, March 6th.*

New Mining Advertisements.

French Silver Mining Company.—Location of Works: White Pine District, (formorly Lander County), State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of May, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. certificate.	No. Shares.	Amount.
W Reynvaan	49	25	$1 25
Louis Franconi	7	1050	52 50
Louis Franconi	9	1150	57 50
Louis Franconi	50	2250	112 50

And in accordaace with law, and an order of the Board of Trustees, made on tho fourth day of May, 1869, sa many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, California, on the twenty-eighth day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. je12

Notice.—The Annual Meeting of Stockholders of the "Kewanee Silver Mining Company," for the election of Trustees and the transaction of any other important business, will be held at the office of the Company, No. 211 California street, on SATURDAY, July 10th, 1869, at 3 o'clock P. M.

EDWARD BARRY, Secretary.

June 10th, 1869. je12

Marlborough Silver Mining Company.—Location of Works: White Pine District, (formerly Lender County), State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of essessment levied on the fourth day of May, 1869, the several amounts set opposite the naaes of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J McDonald, Jr	16	2000	$100 00
W Roynvaan	71	25	1 25
Louis Franconi	7	1050	52 50
Louis Franconi	12	1150	57 50
Louis Franconi	72	2250	112 50
Warren J Lockhart	unissued	2000	100 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of May, 1869, so many shares of each parcel of said stock as may be necessery, will be sold at public auction, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, California, on the twenty-eighth day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. je12

Silver Wave Mining Company, White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of June, 1869, an assessment of twenty cents per, share wes levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary at his office, No. 418 California street.

Any stock upon which said assessment shall remain unpaid on the eighth day of July, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-eighth day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, No. 418 California street, San Francisco. je12

Mining Notices--Continued.

Bowden Silver Mining Company. Location of works: White Pine, White Pine County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fourtcenth dey of April, 1869, the several amounts set opposite the names of the respecitve shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Charles B Young	Unissued	1000	$50 00

And in accordance with law, and an order of the Board of Trustees, made on the fourtcenth day of April, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No 11 Hayward's Building, 419 California street, San Francisco, on Monday, the fourtecnth day of June, 1869, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

M. S. MARTIN, Secretary.

Office, No. 11 Hayward's Building, 419 California street, San Francisco. my20

Dios Padre Gold and Silver Mining Company, Alamos, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-ninth day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm Bibler	299	20	$60 00
Wm Bibler	321	5	15 00
Wm Bibler	389	25	75 00
Wm Bibler	411	25	75 00
Wm Bibler	414	50	150 00
W Bryarly	168	10	30 00
J C Jonghuns	175	5	15 00
J C Jonghuns	176	5	15 00
J C Jonghuns	177	5	15 00
E W McKinstry	405	25	75 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty ninth day of April, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., No. 426 Montgomery street, San Francisco, Cal., on Monday, the twenty-first day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

E. G. McCOMB, Secretary.

Office, cor. Broadway and Battery streets. je5

SAN FRANCISCO, May 5, 1869.—MESSRS. DEWEY & Co. Gentlemen:—Allow me to express to you many thanks for services rendered me in procuring my patent, which has just come to hand. I would also say that your work has been faithfully done, and your advice and representations have in all cases been honest and truthful.

Respectfully, GEO. INWOOD.

Daniel Webster Mining Company.—Location of Works: White Pine County, State of Nevada.

NOTICE.—There are delinquent, upon tho following described stock, on account of assessment levied on the seventh day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Black, J J	27	50	$5 00
Black, J J	28	40	4 00
Black, J J	29	50	5 00
Black, J J	30	500	50 00
Brewer, Wm	53	10	1 00
Brewer, Wm	54	10	1 00
Brewer, Wm	55	5	50
Coupland, W F	71	100	10 00
De Ro, Chas, Jr	95	50	5 00
Evatt, W J	26	10	1 00
Farrington, Chas L	157	100	10 00
Heniz, A H	105	10	1 00
Heniz, A H	106	10	1 00
Heniz, A H	107	5	50
Jackson, Andrew	31	13	1 30
Jackson, Andrew	33	25	2 50
Jackson, Andrew	34	25	2 50
Jackson, Andrew	35	25	2 50
Jackson, Andrew	36	13	1 30
Jackson, Andrew	37	25	2 50
Jackson, Andrew	39	400	40 00
Jackson, Andrew	40	150	15 00
Jackson, Andrew	41	100	10 00
Jackson, Andrew	43	150	15 00
Jackson, Andrew	108	10	1 00
Jackson, Andrew	109	10	1 00
Jackson, Andrew	110	12	1 20
Jackson, Andrew	111	17	1 70
Proeschold, Chas	78	50	5 00
Strahle, Henry W	72	50	5 00
Strahle, Henry W	73	100	10 00
Strahle, Henry W	74	100	10 00
Strahle, Henry W	75	100	10 00
Strahle, Henry W	76	100	10 00
Stetson, Geo D	61	25	2 50
Stetson, Geo D	62	25	2 50
Stetson, Geo O	63	25	2 50
Speiman, John	77	50	5 00
Schord, L G	56	25	2 50
Taylor, Holmes	60	50	5 00
Taylor, Holmes	65	100	10 00
Thompson, Ira D	100	500	50 00
Thompson, Ira D	101	25	2 50
Thompson, Ira D	102	25	2 50
Thompson, Ira D	103	25	2 50
Thompson, Ira D	104	300	30 00
Wigmore, James	50	10	1 00
Wigmore, James	51	10	1 00
Wigmore, James	52	5	50

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of April, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 418 California street, San Francisco, on the thirty-first day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. A UHRIG, Secretary.

Office, No 418 California street, San Francisco. my15

POSTPONEMENT.—The above sale is hereby postponed until Wednesday, the thirtieth day of June, 1869, at the same hour and place. By order of the Board of Trustees.

je5 O. D SQUIRE, Secretary.

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Monatain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of May 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, (up stairs) Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain napaid on the twenty-sixth day of June, 1869, shall be dcemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fourteenth day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. my22

North Star Gold Mining Company---Location of Works: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of June, 1869, an assessment (No. 1) of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 10 second floor of No. 402 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on Friday, the ninth day of July, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold Friday, the thirtieth (30th) day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary.

Office, room No. 10 second floor of No. 402 Montgomery street, San Francisco. jun6

Nuestra Senora de Guadelupe Silver Mining Company.—Location of Works: Tayolilla, San Dimas District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of May, 1869, an assessment of two dollars per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, No. 210 Post street, or to the Treasurer, A. Himmelmann, No. 67 Washington street, San Francisco, **to settle the indebtedness of the said Company.**

Any stock upon which said assessment shall remain unpaid on the sixteenth day of June, 1869, shall be deemed delinquent, when **the payment will be enforced by law.** By order of the Board of Trustees.

E. J. PFEIFFER, Secretary

Office, No. 210 Poststreet, San Francisco, Cal. my15

Siempre Viva Silver Mining Company, District of Zarigossa, Sinaloa, Mexico.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fifteenth day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bacon, J S	91	25	$25 00
Lohse, E S	237	2	2 00
Lohse, J F	165	10	10 00
Lohse, J F	193	4	4 00
Lohse, J F	242	10	10 00
Simon, B	98	10	10 00
Meeiz, Theo	99	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of April, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J Middleton & Son, at their salesroom, 310 Montgomery street, San Francisco, on Monday, the fourteenth day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Fraacisco. my29

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—The Annual Meeting of the Stockholders of the Silver Sproul Mining Company will be held at the office of the Company, No. 408 California street, San Francisco, on TUESOAY, the twenty-ninth day of June, 1869, at 12 o'clock M., for the cleclion of Trustees to serve for the ensuing year, and for the transaction of other business.

T. B. WINGARD, Secretary.

San Francisco, June 4, 1869. je5

Quarterly and Monthly Editions.

At the end of each quarter a large number of our weekly issues for the preceding three months are bound up in book form, which, by special arrangement, are placed upon the ferry boats and various steamers leaving San Francisco and other ports on the Pacific Coast, for free reading by the intelligent traveling public. The Quarterlies are also to be found in the principal libraries, depots, hotels, and free reading rooms of the Coast.

This, in addition to our Monthly Series and large weekly circulation, makes the PRESS the BEST and CHEAPEST general advertising medium throughout the Pacific Coast. The value of advertising in our columns, however, is best determined by those who have tried it, and we respectfully refer to our patrons in that line. No paper in the United States can boast a better class, and no weekly paper on the Pacific Coast receives as large a sum for regular advertising, or has more constant or long-continued customers.

SAN FRANCISCO MILL.

HOBBS, GILMORE & CO.,

Manufacturers of Boxes,

Market Street, bet. Beale and Main.

For sale—Mahogany, Spanish Cedar, and other Woods.

24v18-1m

A Long Desired Article

FOR CLEANING THE HEAD AND HAIR, THE CLEANing of the head and hair has been the subject of consideration for a long time. This object will be accomplished by using

CAMILLE CHAMPOO,

which not only does away with the poor soap so offensive to use, and so injurious to the hair, but it cleans the head, strengthens and beautifies the hair, preserves the color, and prevents baldness. It is cooling in nature, and can be used with safety and reliance on the smallest infant. Price 50 cents per bottle. Prepared by EMERTON & LUELLING, 273 Montgomery street, San Francisco, Cal.

HEATHFIELD & BOGLE, Wholesale Druggists, 206 and 208 Battery street, San Francisco, sole Agents for the Pacific Coast. 24v18-3m

To Quartz Mining Companies.

To be sold positively within the next three months—the MINES, ENGINE, MILL, and entire Machinery of the TEMPLAR No. 2 Quartz Mining Company, located at Indiana Ranch, Yuba County, consisting of—

One Steam Engine, 60-horse power, made by Burden, Brooklyn, New York.

Two Large Boilers, in complete order.

One Eight-stamp Battery.

One Chile Mill.

One Cornish Lift-Pump, 6 inches, of superior make and finish.

280 feet of 5-inch Iron Suction Pipe.

One large Water Tank.

And also all of the necessary machinery, with Belting, Feed Pumps, Hose, Turn Tables, Cars, Ropes, Track Iron, Flumes, Plates, with Blacksmith Shop and all Tools and requisite implements to be found in a large and first class quartz mill.

The Company having ceased operations intend selling off their effects as speedily as possible.

For Particulars as to price, etc., address, by letter or otherwise, L. W. CAMPER, at Indiana Ranch; GEORGE B. HORNISH, Marysville; or E. W. HASKELL, Pacific Fruit Market, San Francisco. 24v18-1m

This will resist the extremes of heat and cold without liquefying or hardening.

It is therefore peculiarly adapted to the varied climate of this coast, especially localities where THE WEATHER BECOMES EXCESSIVELY HOT, causing oil and all other kinds of grease to run from the axle, retaining the proper position. It remains soft until exhausted, leaving no deposit of GUM TAR OR PITCH. Its superior lubricating properties, durability and cheapness have been tried and approved by the CENTRAL PACIFIC AND OTHER RAILROADS, STAGE PROPRIETORS, STABLE KEEPERS, TEAMSTERS, CONTRACTORS, MILLMEN, FARMERS, and many others who prefer to

USE NONE BUT THE BEST.

Being prepared by a peculiar CHEMICAL COMBINATION OF OIL, previously freed from gum or other deleterious substances, it must be obvious that by its use friction will be reduced to the lowest point. We feel assured that all desiring A NO. 1 LUBRICATOR will give this the preference over any other Grease IN THE MARKET.

Sold by the Trade generally, and at the Factory, 109 Commercial street, San Francisco. **PETTIT & CO.**

24v18-3m

PROPOSALS WANTED!

ARTESIAN WELL.

THE OREGON STATE AGRICULTURAL SOCIETY

will receive proposals until the first day of July, 1869, for boring an ARTESIAN WELL on the Fair Grounds belonging to the Society, 1½ miles from Salem. All communications and proposals to be addressed to

J. H. MOORES,
Salem, Oregon.

23v18-2w

Notice To Mining Companies.

The undersigned offers his services to the mining public. Having devoted several years to the study of mining and metallurgy in some of the best schools and works of Europe, and being acquainted with the metallurgical treatment of ores as practiced on this coast, he is confident of his ability to render valuable aid to parties employing him.

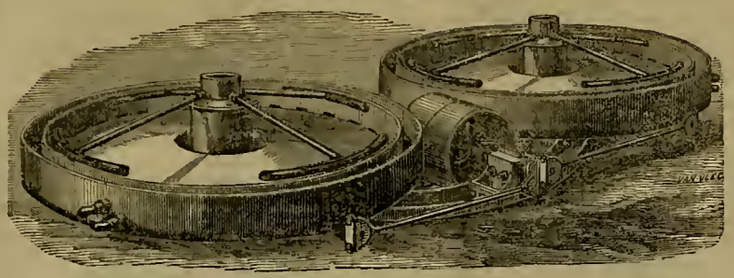
CHAS. C KUEGER.

Address, care of Mining and Scientific Press. 23v18

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low 10v17tf

HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868.

MR. MORGAN HUNGERFORD—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lumbard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

In future these Pans will be manufactured by GODDARD & Co., at the Pacific Iron Works, San Francisco, which is a guarantee that they will be built in the most substantial manner.

These Pans may be seen at the Pacific Iron Works, First street, near Howard, San Francisco.

Address,

GODDARD & CO., San Francisco.

Or M. HUNGERFORD, at the Pacific Iron Works.

18v17eow

Important to Assayers.

Crucibles.

The Patent Plumbago Crucible Co.,

Manufacturers of all kinds of

Melting Pots, Portable Furnaces,

CRUCIBLES, and other fire-standing Goods,

Battersea Works, London.

THE MORGAN PATENT CRUCIBLES have uniform quality, never crack, withstand the greatest heat without danger; heats more rapidly than any other; change of temperature has no effect on them; stand on the average forty to fifty pourings.

CERTIFICATES:

United States Branch Mint, San Francisco, Cal., March 12, 1869—Messrs. A. S. Hallidie & Co., Agents Morgan Crucible:—I have carefully tested the Morgan Patent Plumbago Crucibles purchased from you for the U. S. Branch Mint, and cheerfully certify to their superiority and economy over all other Crucibles used by and under me. They are fully what you represent them, and I shall continue to use them in preference to any other. J. A. ECKFELDT,

Melter and Refiner, U. S. B. Mint.

Eagle Brass Foundry, 206 Fremont street, San Francisco, 12th March, 1869—Messrs. A. S Hallidie & Co., 519 Front street—Gentlemen:—We have used and tested the Morgan Patent Plumbago Crucible, for which you are agents, and pronounce them superior to and cheaper than any Crucible used by us heretofore. GREENBERG & MOORE.

Messrs. A. S. Hallidie & Co:—We have thoroughly and severely tested in every way the Morgan Patent Plumbago Crucible obtained by us from you, and find them superior to any we have yet tried, although we have used every pot obtainable in this market, we have none equal to the above, and concede your claims for them. We think they will average 45 pourings of brass.

GALLAGHER, WEED & CO.,

California Brass Works, 125 Front street, San Francisco.

Assay Office of H. Harris, Silver City, Nevada, April 24, 1869—Messrs A. S Hallidie & Co.—Gents:—I received from you three Crucibles of the Morgan make, which I have used since their arrival, and tested by constant use. Since 1847, when in the New Orleans Mint, I have always preferred the Crucible of Dixon's make over Adus, Gautier, and Taunton, Mass. Yours I find to be not alone of more finished make, but to stand double or treble the work of Dixon's Crucibles. The No. 12—the smallest sent—has stood so far 32 meltings, and is as good and sound as when received. Your Crucibles do not scale off like others; and as they are forty per cent. cheaper, I do not see why they should not be preferred by all assayers on account of durability and cheapness. Yours respectfully, H. HARRIS.

On hand and for sale by the Agents,

A. S. HALLIDIE & CO.,

18v18-9p **519** Front street, San Francisco

Canvassing Agent Wanted!

A first-class Canvassing Agent can secure a good situation by calling at this office.

DEWEY & CO.,
Publishers Mining and Scientific Press.

THE PRESS is one of the most valuable and instructive papers published in the United States, and every miner, millman, machinist and foundryman should be a subscriber. The information to be derived from its columns is worth many fold times the subscription.—*Grass Valley National.*

Pacific Mail Steamship Co's

STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the **10th, 17th** and **30th** of each month that has **30** days.

On the **10th, 18th** and **30th** of each month that has **31** days.

When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 17th falls on Sunday, they will leave on the Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departure of the 17th or 18th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

The following Steamships will be dispatched on dates as given below:

June 1—GOLDEN CITY.....Capt Wm. F. Lapidge,
Connecting with ARIZONA, Capt. Maury.

June 9—MONTANA.....Capt E. S. Farnsworth,
Connecting with ALASKA, Capt. Gray.

June 18—COLORADO.....Capt. Wm. H. Parker,
Connecting with HENRY CHAUNCEY, Capt. Connor.

June 30—CONSTITUTION.....Capt. Wm. H. Hudson,
Connecting with ARIZONA, Capt. Maury.

Passengers berthed through. Baggage checked through. One hundred pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets to Liverpool by the "Inman" and "National" Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

For Merchandise and Freight to New York and Way Ports, Company's Form of Bill Lading only used.

No Freight will be received on board after 2 P. M. of the day prior to the steamer's departure.

The Steamship CHINA, Capt. Warsow, will be dispatched for YOKOHAMA and HONGKONG on FR DAY, June 4th, 1869, at noon connecting at YOKOHAMA with the steamer NEW YORK for SHANGHAI.

For passage, freight and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. BUFFINGTON,
Room 37 New Merchants' Exchange, California street, San Francisco 17v15-tf

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful Institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block San Francisco. 21v18-4w

For Miners, Millmen and Metallurgists.

KUSTEL'S NEW WORK,

CONCENTRATION

Of all kinds of Ores, and the

CHLORINATION PROCESS,

For Gold-Bearing Sulphurets, Arsenurets, and Gold and Silver Ores generally.

Price, - - - - - $7.50

A liberal discount to the Trade. For sale by the Booksellers Sent to any part of the United States, postage paid, on receipt of the price. Address,

DEWEY & CO., Publishers,

Office of the Mining and Scientific Press, 414 Clay street. 16v1tf SAN FRANCISCO.

A NEW

Gold Metal.

THE GOLD METAL WATCHES

Now being introduced by

C. E. COLLINS & CO.,

No. 629 Washington street,

SAN FRANCISCO,

Surpass anything yet made in the way of an Imitation Gold Watch. They wear well, and keep good time.

The Ladies' Watches cost $8 and $10 each. The Gentlemen's cost $15 and $20 each. Chains, from $3 to $6 each.

RECOMMENDATIONS:

SAN FRANCISCO, May 12, 1869.

This to certify, that I have carried one of the small size Gold Metal Watches which I got of C. E. Collins & Co., and I find that it runs as well, and keeps as good time, as any Watch I ever carried, and I can therefore recommend them. I am engaged on the Sacramento steamer "Chrysopolis." C. A. COLBY.

I am an engineer on the San Jose Railroad. I have been carrying one of C. E. Collins & Co's Watches for about one year, and I can safely say it is the *very best* watch for time that I have ever seen. GEO. CORNWALL,
Engineer on the San Jose Railroad.

MESSRS. C. E. COLLINS & CO:—Having heard your watches spoken of in the highest manner, I have resolved to order one for myself. You may send me one of the Lady's $10 Watches, without the chain. Send it as soon as possible, as I am very much in need of a time-piece.

R. B. PATTEN,
Toano, C. P. R. R.

The Public are cautioned against buying their watches at high prices, as many of them are sold for genuine *Gold Watches*, at from $100 to $150 each.

For List of Prices and Description of Goods send directly to us. Can be sent by Express, to be paid for on delivery.

C. E COLLINS & CO.,

No 629 Washington street, San Francisco.

P. S.—Where six Watches of the above are ordered at one time, we will send one extra, free of all charge.

We also deal in the finest Gold and Silver Watches Watch Materials, etc. Send for circulars or prices.

RANSOME'S PATENT

Diamond Grit Grindstones,

Warranted of Uniform Texture,

TWICE AS STRONG AND WILL CUT AT LEAST TEN TIMES AS FAST AS THE BEST NATURAL STONES.

We manufacture the following qualities, viz:

"Hard," for Machinists, etc.

"Medium," for General Use.

"Soft," for Wood Workers, Etc.,

Diameters, 4 to 70 inches; thickness, ¼ inch to 12 inches; and any fineness required.

Solid Emery Wheels and Sharpening Stones,

Of all forms and materials.

These Stones are fast superseding the natural ones in England, the tests made there showing them to cut about fifty (50) times as fast as the Newcastle, and entirely free from flaws, and hard and soft spots.

☞Grindstones, with Frames, Iron Troughs, Shafts and Treadles, ready to set up in working order, for sale a wholesale or retail.

PACIFIC STONE COMPANY,

E. T. STEEN, Sup't.,
20v18tf Cor. Turk and Larkin sts., San Francisco.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

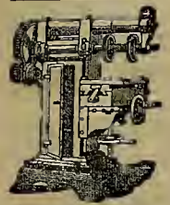
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.



Pipe Vise, with or without Extra Jaw.

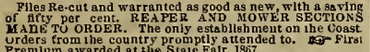
Standard Milling Machine.

UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises. Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y O. H. NOTT, Pres.

PACIFIC FILE WORKS,



No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.

Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**

Removal.

NELSON & DOBLE,
AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Slacksmiths' and Horse-Shoers' Tools,

Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

10v14qr

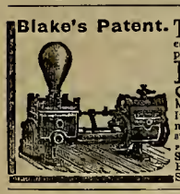
CALIFORNIA TOOL WORKS,
Blacksmith and Machine Shop,
143 Beale St., bet. Mission and Howard,

SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted.

21v17-qy **J. WEICHHART, Proprietor.**

Blake's Patent.



THE BEST PUMP for Soiler Feeders, Breweries, Sugar Houses, Tanneries, Mining and Fire purposes, etc., is Blake's

Patent Steam PUMP

It is SIMPLE, COMPACT and POWERFUL, needs no expert to run it, and will start at any point. Is warranted PERFECT under all circumstances. Send for a circular. W. O. M. BERRY & CO., 114 California St., San Francisco, Cal.

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Sundie Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

CROSS' COMBINED
Heater & Sediment Collector

This Heater effectually prevents the collection and deposition of sediment in the boiler from impure water. From April 1, 1869, the Royalty on this Heater has been

REDUCED 45 PER CENT.,

Which enables the Vulcan Iron Works, McAfee, Spiers & Co., Risdon Iron Works, of San Francisco, Keep & Barglon, of Stockton, and Williams & Co., of Sacramento, the parties having the right to build them, to furnish these Heaters at greatly reduced rates. Send for Circulars to

WM. A. CROSS,

16v18-3m Patentee, Sacramento, Cal.

BY MAIL.—The *Mining and Scientific Press* will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of the old and new location, and the paper will be sent accordingly.

PACIFIC
INSURANCE COMPANY
OF SAN FRANCISCO, CAL.,

Office, No. 422 California street.

Cash Assets, Jan. 1, 1869, - - $1,529,740 18

FIRE,

MARINE,

AND

INLAND

INSURANCE.

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Mining Property for Sale.

A Two Thirds Interest

OF THE

Golden Rule Mining Company's
Claims and Mill,

Situated in Tuolumne County, California, two and a half miles south of Jamestown, on the Great Mother Quartz Lode. A good 15-stamp Water Power Quartz Mill is situated on the property, with a never-failing supply of water, as can be shown by the last four years continual running. This Claim has three parallel Ledges, from 50 to 100 feet apart, averaging from two to six feet in width, with a length of six hundred feet. They are so situated that a tunnel has been run through them at right angles, making a surface drainage of from seventy to eighty feet in depth on the mine. The mine is well ventilated by shafts from the surface, and well timbered so far as worked. In the mine are steam Hoisting Works, capable of hoisting from a depth of 300 feet. A force of thirteen men only are required to keep both mill and mine running regularly.

On the surface and flats for a distance of 500 feet from these veins, the ground or surface was mined by placer miners, in former years, producing from two to five ounces per day to the man, during the season when water could be obtained, which factgoes to prove that a heavy deposit of ore was once contained in the croppings of these shutes, which, by all former and present theories of deep mine workings, came from below, indicating that when sunk upon to a proper depth, the lead will develop a mine equal to the Amador or Eureka.

This claim has paid its 19th regular dividend of $1,500 each, during the past four years, besides all the construction and other expense account, and has levied no assessments during the same time, and at present has on hand $8,000 in the Treasury, and no debts.

The last level, 150 feet from the surface rock, averaged $7 per ton, on which was a profit of from $1 to $1 50 per ton. The length of the two shutes of ore on the east vein, and the only one worked upon, has been about 200 feet.

Now I propose to sell two-thirds of this valuable property for $16,000, cash; and any party who desires to purchase a property of this kind—which theory has proven that it requires depth, on well known shutes of ore, for a sure fortune—could obtain a chance here, providing he or they will go down a sufficient depth. No purchaser is solicited unless he first goes and examine the mine, or sends a mining engineer in whom he can have confidence, to indorse what he may think proper of what has been here stated.

For any further particulars, direct by letter to Wm. Sosworth, San Francisco, P. O. Sox 1978, or at my office, room No. 5, over Donohoe & Kelly's Sank.

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Manufacturers of all kinds of
Desks and Office Furniture,
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Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

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Horace Greeley's Autobiography, and other new and popular works. Send for descriptive circulars.

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Pioneer Screen Works,
JOHN W. QUICK, Manufacturer,

Removed to A. Pritzel's Iron Works, 213 Fremont street, near Howard, San Francisco.

Screen Punching in all its branches, at rates reduced from 25 to 40 per cent. less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.

N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

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124 California street, San Francisco.
Agents for Baldwin's Improved Money Drawers.
☞ Send for a Catalogue. 18v1seow6m

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Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 1 Clay street, below Davis.

Written for the Mining and Scientific Press.

Eating.

EDITORS PRESS:—Eating is a pleasant exercise to one in health. But wherein consists the chief pleasure? Let us step into a restaurant and observe the process awhile, and see if we can make an analysis of its pleasures.

There is one chewing away on a tough piece, as though he enjoyed the *chewing*. Without doubt there is great pleasure in this part of the process. We love to chew for the sake of this pleasure, even when no other is connected with the exercise. We all loved to chew gum or the gluten of wheat. Some will chew even the piece of an old shoe, if made of india-rubber. Others again will chew tobacco. Chewing may be cultivated till it becomes a habit. Then the subject is uneasy, unless he has all the time something between his teeth. We prefer to chew that which has a decided flavor, whether that of itself be pleasant or not, rather than chew a tasteless thing. Some can chew contentedly on dry toast or a cracker; but few, if any, love to chew long on the same piece of beef-steak. The picture of perfect content shown by the cow or the sheep, while ruminating, illustrates the great pleasure in chewing.

Yonder is another, who takes his food in little mouthfuls, and seems to spread that little all over the inside of his mouth; and he gently, very gently smacks his lips now and then, and his countenance lightens up as he put some more savory morsel upon his tongue. He seems to enjoy the tasting more than the mechanical process of chewing. He loves those dishes that are so prepared as to need but little chewing; yet he eats slowly, as though he would bring every particle of food in contact with some part of the gustatory nerve, and thus extract all possible pleasure from its rare flavor. He does not holt his food like the dog, as though it were a disagreeable pill that ought to be sugar coated and swallowed at the earliest possible moment. Tasting is his chief pleasure.

But over there is another who seems to place the hight of enjoyment in the swallowing. Just notice how he shovels it in! And how quick all is disposed of! He eats like a serpent. Swallowing is the principal thing with him. Then he is sure of it; like that man who laid a wager he could swallow three dozen hard-boiled eggs within so many minutes. Swallow them whole! As though there was manhood in acting like a constrictor or a shark.

Again, there is a negative pleasure from eating—a relief of hunger. We feel better after we get over hunger, and we would eat, were it an unpleasant exercise, just for the relief it affords.

But there is a man who is never satisfied with *quality;* he must have *quantity* till he feels a sense of fullness. He scarcely ever knows what hunger is. He eats early and often, and stimulates his appetite with condiments. Eating is continued till he is *full,* whatever may be the nature of the dish. Such are gluttons, and if not drunkards also, it is because under great moral restraint, or because they are too stingy to buy their own whisky. Their only rule is *fullness,* whether they take solid or fluid. When the sense of fullness subsides they are ready for another drink. Of all the pleasures of eating or drinking, that arising from fullness is the meanest and most brutal. It can not be followed without debasing the whole nature, clogging the mind and destroying the body.

Savage nations have very little idea of savor or flavor in their food. If it is not decidedly repulsive and relieves hunger, they are satisfied. But as refinement comes in, neatness and skill in preparing food gradually develops a keener appreciation of flowers, until at length we perceive a harmony existing between certain dishes, and one course follows another, as strains in a tune, in such a manner as to develop the greatest amount of rational enjoyment from the skillful arrangement of their amount and succession.

We are inclined to place the most rational pleasure of eating in the tasting. But if we place the highest pleasure here, we should so use it as not to destroy its

power. A wise use will preserve it to a good old age.

Eat not to fullness, for that is a low, swinish kind of enjoyment. Bolt not your food, for then you lose much of the pleasure it was designed to give. The person who eats wisely will *taste* more while eating an ounce, than some men and animals do while eating a pound. I once knew a man who was very fond of oysters. He would give a good price for a choice lot; have them prepared with great skill in his favorite style; invite his friends to enjoy the treat with him, but a saucerful was all he would take at a sitting. They were delicious, and *he* enjoyed them best of anybody; and he expected to enjoy the like some other time. In my estimation he was the noble eater, the rational and refined eater, a true gentleman. JEIGH ARRH.

A NATURAL PIGMENT.—A new pigment has been discovered in some lead mines in New Jersey, which consists of an intimate natural mixture of zinc and lead, and is termed plumbate of zinc. A certificate of its qualities has been obtained from the School of Mines, Columbia College. It is stated to possess the following peculiarities: It covers better than pure oxide of zinc, or the best white lead; it covers more surface, weight for weight; it makes a harder and more durable coating; it will wear longer when exposed to the weather; and it resists for a greater length of time the action of sulphureted hydrogen, and other deleterious gases, which so quickly discolor white lead. At the same time its cost is considerably less.—*Iron Age.*

NOTHING LIKE ENGLISH.—It is said that there is no other spoken language so cheap and expressive by telegraph as the English. So the electric wires are becoming teachers of our mother tongue in foreign countries. The same amount of information can be transmitted in fewer English words than French, German, Italian, or any other European language. In Germany and Holland especially, it is coming to be a common thing to see telegrams in English, to save expense and insure precision.—*N. Y. Stockholder.*

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Room to Let.
We have a well lighted room, 22 by 36 feet, in second story at 414 Clay street, near Sansome, which we will rent very low, suitable for printing or manufacturing purposes.
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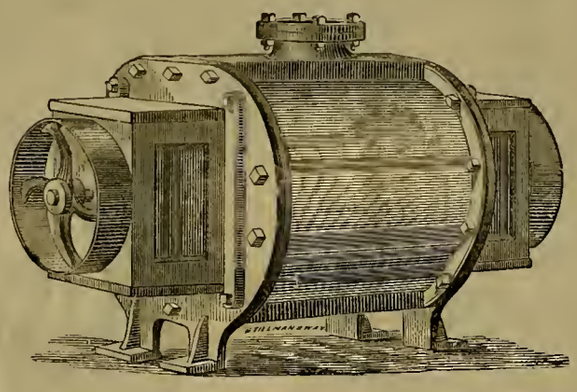
WORCESTERSHIRE SAUCE
Declared by connoisseurs to be the only
GOOD SAUCE.
The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for
Lea & Perrins' Sauce,
and see that their names are upon the wrapper, labels, stopper, and bottle.
So one of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L and P give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.
Caution against Fraud.
Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.
Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CROSS & CO., San Francisco. 3v18-6m

$500 WANTED—TWENTY MEN WITH $500 EACH—must be men of the right stripe—to join an expedition that is organized in this city.
FOR SALE.—Patent Dovetailing Machines, that do the work of 40 men—the greatest invention on this coast. For particulars apply to J. S. MAXWELL, 413 Kearny street, Room No. 1. 22v13-1m

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.
Awarded the First Premium at the Paris Exposition.



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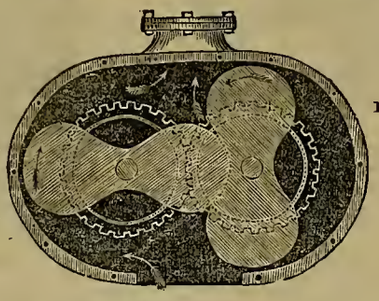

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One of these Blowers may he seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP & BARGION,
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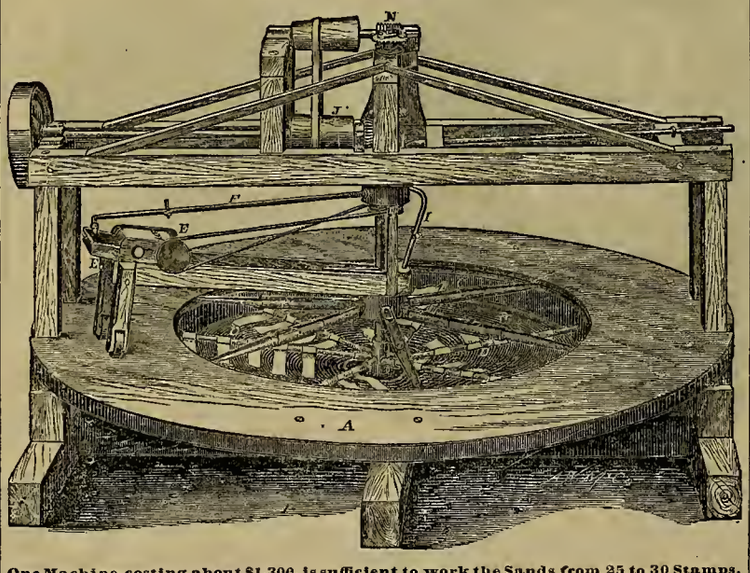
4v16 3m

PAINE & STEPHENS'
IMPROVED CONCENTRATOR,
For Saving Gold and Silver Sulphurets.



One Machine, costing about $1,300, is sufficient to work the Sands from 25 to 30 Stamps,

Less power being required than for any other Machine. The attention of quartz millmen throughout the State is directed to the subjoined certificates, and if they desire they can visit the Amador Mining Co's mill, near Sutter Creek, the Eureka Co's mill at Grass Valley, or the Bauer Co's mill near Nevada, and see for themselves.

CERTIFCATES:

GRASS VALLEY, Jan. 4th, 1869.—This is to certify, that we have used the Paine, Stephens & Harry Concentrators for over twelve months. They have given us entire satisfaction, and are the best we ever used. WILLIAM WATT, Supt. Eureka Mine.

This is to certify, that we have had in use for the past 18 months one of Paine, Stephens & Co's Sulphuret Saving Machines, constructed by John T. Harry, (called a buddle,) and which operates satisfactorily, particularly so in saving fine sulphurets, and we recommend it as well worthy of use, even where other Concentrators are used above it, as it will pay if there are any sulphurets.
WM. L. TISDALE, Supt. Star Spangled Banner Mine.

NEVADA CITY, Oct. 26, 1868.

Any one wishing to purchase one of these useful machines, can do so by applying to THOS. N. PAINE, at Grass Valley, Nevada County, or JOHN T. HARRY, Sutter Creek, Amador County.
13v15eow

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METALLURGIC WORKS.
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That I am prepared to teach all the above branches in less time than in any European School.
I also undertake to assay and work any kind of ore, or mineral substances.
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PROF. HENRY WURTZ,
Formerly Chemical Examiner in the U. S. Patent Office may be employed professionally as a SCIENTIFIC EXPERT, Geological Examinations and Reports, Analyses and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞ Written communications preferred.

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All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

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THE EXCELSIOR PUMP.

THE BEST PUMP FOR MINING, FARMING AND DOMESTIC PURPOSES.

Hooker's Patent, August 15, 1866; Jan. 15, 1867.

IMPROVED

DOUBLE-ACTING SUCTION AND FORCE PUMP.

Fig. 1

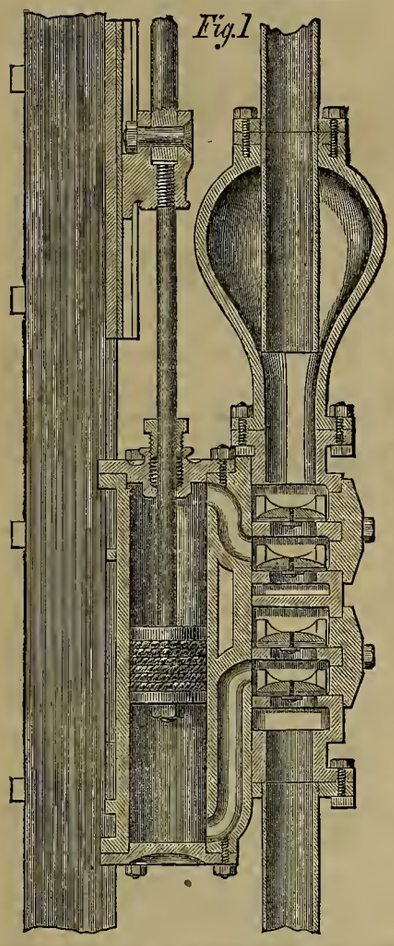


Fig. 2

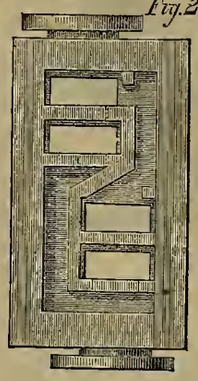


Fig. 3.

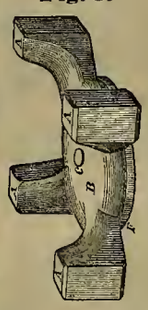


Fig. 4.

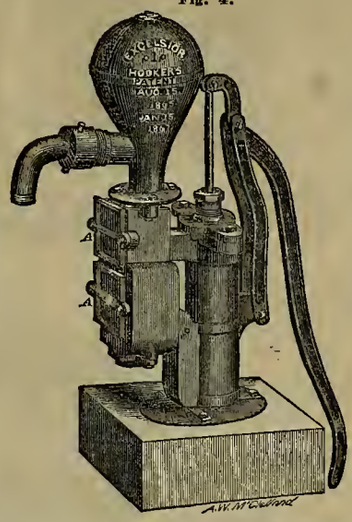
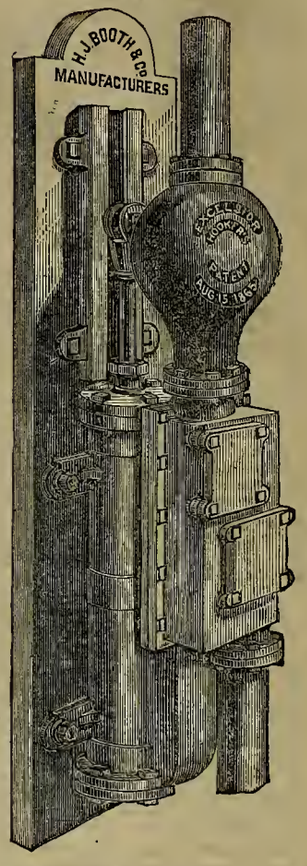


Fig. 5.



These Pumps are meeting with universal favor wherever tried, and are now being introduced, in many instances superseding Pumps which had hitherto been considered the best in the world.

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Fig. 1 is a sectional view of a 6-inch Mining Pump, showing the plunger and hemp packing on the left, with the chamber on the right containing the puppet valves. Fig. 2 represents the chamber, with the water-passages and valve-seats. Fig. 3 is the valve, operating in the chamber. Fig. 4 is the improved Hand Pump. Fig. 5, a 6-inch Mining Pump, shows the adjustable bonnet opening to the valves.

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DR. HALL has just returned from Europe after an absence of one year, during which time he has visited England, Ireland, France and Germany, and has held consultations with the following eminent physicians: Drs. Curling, Druit, Lee, Parker, Acton, Aitken, Churchill, Ricord, Velpeau, Boech, Sperino, and Dewilz. Many of the cases in which he held consultation with the above named eminent physicians were, we are sorry to say, those of Americans. Americans will not now be under the necessity of leaving the Pacific Coast for Medical Treatment, for Dr. HALL has brought with him every new mode of treatment known to the greatest physicians of the world. To old residents of the Pacific Coast it is needless to mention the address; to newcomers, however, it is necessary to mention that he may be found at the American Surgery and Dispensary, 402 Montgomery street, opposite Wells, Fargo & Co's, San Francisco. 2Iv18-3m

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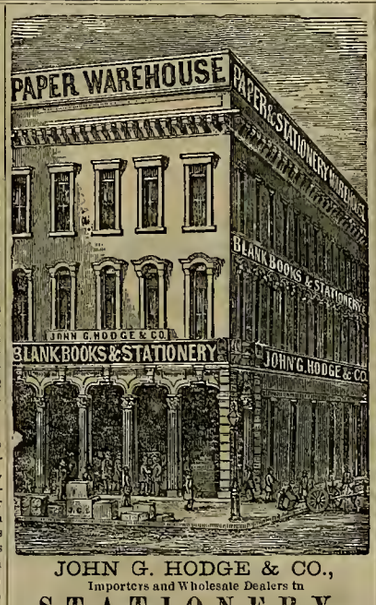

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SAN FRANCISCO, SATURDAY, JUNE 19, 1869.

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Barlow's Double-Shanked Anchor.

A special trial of this anchor was recently made at Mare Island Navy Yard, by order of the Commandant, the official report of which, under date of May 27th, 1869, having been placed in our hands, we copy as follows: "The anchor weighs 270 pounds; it has no stock, has a double shank, working on a pivot at the ring and at the crown. Both flukes take the ground at the same time, so that it cannot foul the chain. The test was made by the steam tug Monterey dropping the anchor in between five and six fathoms of water, veering to fifteen fathoms chain, then backing the engine strong, which caused it to drag slowly, but on stopping the engine the anchor held.

We are of the opinion that the anchor deserves favorable consideration—that it has the advantage of not fouling the chain, and will hold better than any ordinary anchor of equal weight."

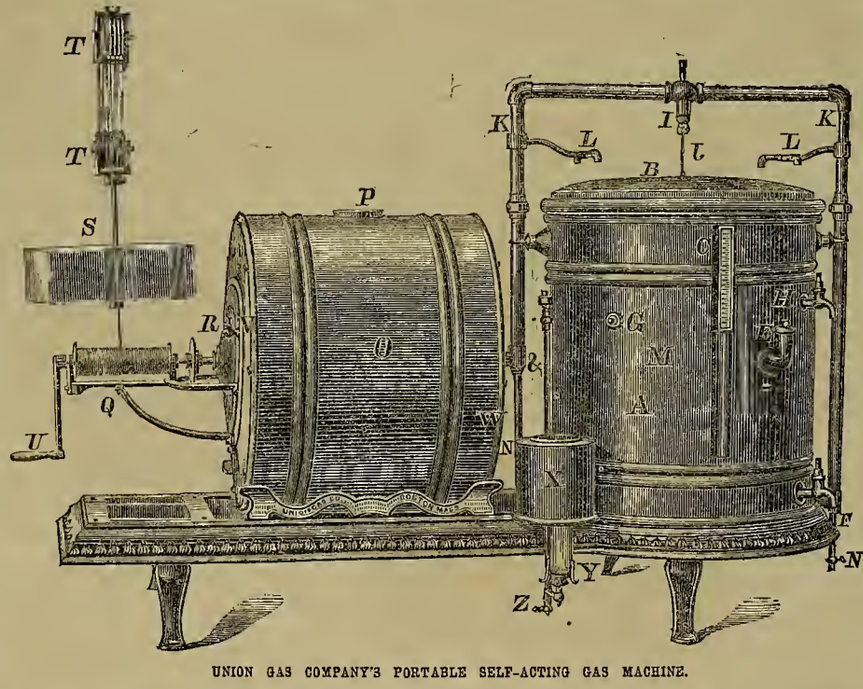
This anchor,—the invention of Mr. E. T. Barlow, of this city,—will be recollected as the one which attracted considerable attention while on exhibition last summer at the Mechanics' Institute Fair, and at the Merchants' Exchange. A caveat having been filed for this invention some months since, application for Letters Patent for the same have been sent to Washington, the past week, through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

THE OPENING OF THE NEW STOCK BOARD took place formally on Monday last, in the elegant hall at the corner of Montgomery and Washington streets. Mr. W. H. V. Cronise the Vice President's address was an interesting, clear-minded, crisply-worded little speech, that did all that could be desired to launch the undertaking favorably before the public. "A Stock Exchange," said Mr. Cronise, "is the congregation of various wares under one roof (for stocks are wares). Even the necessities of domestic life demand that household supplies should be found in one market. The only difference is that the broker is a middleman, and agent for both buyer and seller. His duty lies between them, and herein lies his responsibility."

Home Gas Manufacturing—Light and Power.

A few facts on this subject will be of interest, scientifically, as well as of importance to all consumers of light-producing agents, from an economical point of view. One of the latest, and the simplest, of home gas manufacturing machines yet invented, is illustrated in the accompanying cut, representing the Union Gas Machine, which may be seen in use at Mr. James Atkinson's saloon, No. 538 Market street. In regard to the principles employed, the inventor's own language cannot be improved upon:

The action of the Union Gas Machine is as complicated as the following experiment—no more so. Take a common bowl. Pour



UNION GAS COMPANY'S PORTABLE SELF-ACTING GAS MACHINE.

in some light naphtha (distilled or light petroleum). Put the end of a pipe-stem into the fluid. Cover the first bowl by a second one inverted—putting the two bowls rim to rim. Blow through the pipe-stem as if you were to make soap-bubbles. The operation is finished the moment the upper bowl is filled. Gas is made. Prevent the escape of the gas between the rims; make an orifice in the upper bowl, and from it you can obtain a good gas-light. The air passes through the naphtha, becomes impregnated with its vapor, rises to the surface, and is there caught and held in the upper bowl, ready for use.

A is the generator—the lower bowl. B is the cover or holder, with a rim of water to prevent escape of gas—the upper bowl. O is the air pump—the lungs. S is the weight to propel the air pump—the muscular power. The weight S begins to fall, and by means of the wire-rope, pulleys and drum, revolves the pump inside of O, which then forces air through its center up one pipe K, through the valve I, down the other pipe K under the generator, and up through the fluid by means of a float. It is then gas. The floating cover B holds it, and as more gas is made it rises up until the pressure of the gas under this holder or cover balances the power that forces in the air, whereupon the weight ceases to fall and the pump to move. As soon as a burner is lighted, gas is consumed, and the pressure diminishes in the holder B. Of course the weight is then greater than the pressure, and therefore begins to fall, which in turn induces the air-pump to move, and fill up the vacuum, or rather attempt to restore the equilibrium. The more gas that is used the faster the pump moves and the more the weight falls.

What practical drawbacks might be discovered, we know not; but Mr. Atkinson informs us that there are none whatever; that the machine works to a charm, requiring only a daily winding up,—a care of about three minutes. He has used it for eight months to supply fifteen burners, one of which is used both night and day, and he calculates his saving on gas bills within that time at $396. The price of city gas is at present $5.75 per thousand feet; that of the Union Machine, according to our informant, is $1.75 per thousand feet. He pays for naphtha 33⅓ cents per gallon, and uses about a gallon in twenty-four hours. Just now there is little naphtha in the market; but it is produced in more than the necessary quantities as a regular distillation product of petroleum. Another of these machines may be seen in operation at the shop of D. Simpson & Co., plumbers and gas-fitters, No. 117 Sutter street, who are the agents for the Pacific Coast, and who sell a 40-light machine at $450, one of 60 lights for $500, 100 lights for $700, and 200 lights for $850.

Home gas machines, that will run and regulate themselves, at such a reduction even on the price of petroleum light; using oil that is bored from the rocks of the earth many hundred feet beneath the surface, whence it flows like a spring out of a reservoir of nature's distillation from the vegetable matter of ages past; and then to convert all this into power, with the *gas engine* of Lenoir, described and illustrated in these pages a few weeks ago, that likewise takes care of itself, runs at little cost, and without steam, or boiler, or preparatory firing up: what a comment upon the efficiency of invention in our day! Light and power, *ad libitum*, at everybody's command. Let us make a note of it—this is what we have come to.

A NEW ANTIMONIAL LEAD AND SILVER COMBINATION.—From the vicinity of Oreana, Humboldt County, there has fallen into our hands, through Mr. G. Kustel, a specimen of an ore commonly recognized in that neighborhood as carbonate of lead, but which does not contain any carbonic acid whatever. It is, apparently, a combination of antimoniate and arseniate of lead, containing some silver in a metallic state, with a considerable percentage of water. It has somewhat the appearance of a smelting product, but its percentage of water is decisive against that supposition. It is homogeneous, semi-translucent, of amber color and of the same cloudy appearance, in parts also like sulphur in color; hardness 4 (of fluor-spar); smelts only at a white heat, but on reaching that point the mineral fluxes beautifully; gives before the blowpipe a garlic odor, the white sublimate of antimony, and a lead button. This ore is one of the peculiarities of the Humboldt region, which is remarkable for the variety, oddity and complexity of its ores of silver, lead, and copper, including gold.

CEMENT.—A contract has been made for the delivery in this city of 20,000 barrels of Rosedale cement for the construction of the new mint building, on Fifth street. It will cost the government $3.93 per barrel (currency) landed here. The only bid from this city was at $6.50 per barrel. It is to be regretted the new mint building could not have been put up with California cement, than which no better is made anywhere. We should suppose that so large an order might have been filled at a lower rate than that named for San Francisco; although the successful bid is much below the market price, and will probably leave but little if any margin for profit. A strong Eastern opposition is always brought to bear against any industry here which promises to seriously interfere with any large importation from the Atlantic States.

Silk Culture in California.

Our people appear, at last, to he in earnest with regard to tbe establishment of silk cultnre in this State. The more inquiry is made among tbose who bave bad experience in the matter, the stronger the impression grows that the business is destined to become one of overshadowing importance.

The peculiar applicability of our climate to this cnlture is attracting to our shores silk growers from all parts of the world. In addition to Mr. Prevost, tbe well-known pioneer grower, and Mr. Newman, the pioneer manufacturer, we bave also a great nnmber of otbers experienced in the business, from Italy, France. Japan and China, the four great silk-growing districts of the world. All of these persons are unanimous, after careful inspection, in the opinion that the advantages of this State for the successful prosecutiou of the business have not been overrated. The peculiarly favorable conditions of our climate, and our nearness to the silk-producing regions and cheap labor of Eastern Asia, places us at least on an equality with the cheapest and best skilled labor of Europe.

What are we Doing.

Three years ago there were only about 4,000,000 mulberry trees iu tbe State; now the number cannot he less than 20,000,000. This is a very good stock of trees to begin business witb, and there is every probability that it will be fully improved.

With regard to the present year's prodnction of cocoons, the probability is that the number will certainly reach 75,000,000, and most probably 100,000,000, or more. One million of cocoons will weigh about one ton. Extensive preparations bave been made for the permanent introduction of the bnsiness in the vicinity of Los Angeles. Mr. Prevost has removed thither, and associated himself with Mr. Gary, of that city, where they have erected the largest cocoonery in the State, and expect to produce at least 3,000,000 cocoons this year, which will make 6,000 pounds of reeled silk.

Mr. Albert Brewster, at tbe San Gabriel Mission, nine miles above Los Angeles, is feeding 6,000 worms, and expects to feed over 3,000,000 during the season.

Mr. D. F. Hall, near by, is feeding 500,000. We are not informed of the nltimate number he proposes to feed the present season; but presume it will reach several millions.

A firm at the same place, name notgiven, has gone very extensively into the business; having hired forty Chinese families to carry it on. Each family is provided witb a house and garden. Their engagement lasts for four years; at the expiration of which time, each one who chooses to continue with him will be entitled to a deed of ownership to his house and garden.

Tileston & Emery, same place, offer as a free gift, to any skilled Japanese, 2,000 acres of good laud, provided they will enter upon and establisb there permanent silk culture.

Nevada County has also entered extensively into the business, and will produce a large amount of eocoons the present year, more or less of which, we believe, it is their intention to reel. The experiments of Messrs. Muller and Isoard, of Nevada, have been highly satisfactory. Attention in that connty is now being very generally turned in this direction, and efforts are being made to induce some of the Japanese, now in the State or to arrive, to locate there and establish a factory as well as plantations.

Mr. Louis Reiher has started tbe bnsiness on his place about six miles east of Placerville, and will raise at least 100,000 cocoons tbe present season, so as to come in for the State bounty.

A company is engaged on a very large acale, near Davisville, in Yolo County, which intends to make the culture of silk a permanent business.

We are not informed in regard to tbe number of worms whicb will be fed the present season hy Messrs. Hoag & Haynie, of Sacramento; but judging from their extensive arrangements, and from what they did last year, the number will be immense. These gentlemen are well knowu as tbe largest silkworm growers in the State.

In addition to the parties already mentioned, there aro great numbers of others engaged iu the business in all parts of the State, the aggregate of whose productions, will be very large.

Japanese and other Adventurers.

Perhaps the most promisiug aud important incident connected witb this husiuess, the present season, is the arrival among us of Herr Schnell, a Parisian gentleman, by birth, but for the last twelve years a resident and prominent official in Japan. Tbis gentleman has brought with bim several Japanese, skilled in the cultivatiou of both silk and tea, who are tbe precursors of forty families now on their way thither, and some eighty more, who will soon leave Japan with the view of making tbis State their permanent home, and to engage here in the culture of silk and tea. Many of the individuals connected witb this company have been men of prominence at home, who have been forced to leave their country on account of political disturbances. They are educated and intelligent, and thoroughly understand the business in which they propose to embark. They have already selected one location of 2,000 acres—the ranch of Charles Grainor, near Placerville, for which they pay $5,000. They will probably make additional locations in other portions of the State. We understand they prefer the central to the southern counties, and the foot-hills to the valleys, for reasons which we will endeavor to give at length hereafter. They have brought with tbem 50,000 trees of the *Alba* or wbite variety, which is preferred in Japan to any other.

In this connection we would also meution tbe recent arrival of Mr. Lewis D. Combe, a native of Piedmont, iu Northern Italy, where he was for mauy years engaged in tbe growing and manufactnre of silk. Mr. C. has resided several years in St. Louis, wbere he has become familiar with our language. He has been attracted to this State hy the fame of its superior fitness for silk growing, and proposes to associate himself witb capitalists for the purpose of going extensively into the business to which he become strougly attached in bis early life.

The Mannfacture of Silk.

The efforts of Newman, the pioneer silk manufacturer in this State, have uot yet met with any marked success, for several reasons. First—At the time of his attempt to introduce such manufacture in San José, the puhlic had not become sufficiently settled upon the value or feasihility of the business here, to risk capital in that direction. Perhaps, too, tbe original plan of operations was not altogether what it should have been. Hence notbing has heen attempted beyond the production of a few yards of dress goods, mainly to sbow what *can* he done. His experiments have shown conclusively that silk cau he woveu in California as well as elsewhere. Then again, for reasons hereafter given, no considerahle quantity of merchantable cocoons have yet been produced here from which goods could be made. This matter, however, will soon right itself, and manufacturing operations will be entered upon in earnest.

In the meantime Mr. Newman is engaged at his rooms, No. 422 Commercial street, in reeling a lot of California cocoons (all he has been able to purchase) upon an improved machine, of his own invention, and on which he has applied for letters patent throngh this office. A portiou of this silk will he woven into bunting for the manufacture of two national flags.

Several other projects for manufactories have been projected; and persons engaged in the raisiug of silk may look out for quite a lively competition for tbe purchase of the raw material, as soon as they are ready to put it iu the market.

We may also state in tbis connection that a gentleman from Illinois, who has been engaged in the manufactnre of silk aud woolen goods in tbat State, has written to the Mechanics' Institute of this city tbat he proposes to come bither to engage in the manufacture of silk exclusively. He has all the requisite machinery, which he will bring with him. He will start his manufacture with raw silk made in Tennessee, such as he has heretofore been using; but will purchase the same material here, as soon as it is put into the market.

Questions about the Bounties.

By a singular and unforseen circumstance the purpose of the State in offering bounties to encourage the proper inception of the silk business has been, thus far, rendered quite inoperative, so far as the actual production of silk is concerned. Since the bounties were offered, a most unexpected demand for the eggs has grown up in consequence of the appearance of the silkworm malady iu Europe. In order to obtain these eggs the cocoon must be destroyed so far as its value for reeling is concerned, and the consequence has been that notwithstauding several tons of cocoons

However unfortunate this may be for tbe encouragement of the legitimate and laudable enterprise of our friend Newman in establishing his pioneer manufactory, tbe speculation will not he without benefit in the end. Trees will be multiplied to the utmost extent, so that when we are prepared to enter in earnest into the business, there will be no lack of material. It is simply a putting off of the legitimate enterprise, sought to be encouraged, to a later time; when it will be undertaken on a larger scale and with a greatly increased capital, over that which could have been obtained at an earlier date. We have too much confidence in the enthusiasm and love of the business on the part of those most deeply engaged tberein, to believe that they will at present unnecessarily witbdraw therefrom a dollar whicb has been made from it, or which may hereafter be derived from State bounties.

The State offers a bonnty of $300 for each 100,000 "good, marketable cocoons;" and $250 for each plantation of 5,000 tons two years old or more, set out at proper distance apart for silk culture. Much difference of opinion seems to exist as to what should be considered "good merchantable cocoons"—whether those only should he counted which are in perfect condition for reeling, or whether tbe bonnty also applies to those from wbicb the worm bas been hatched, and the cocoon thereby rendered unfit for reeling, and those also in which the worm has been prematurely killed by the forcing process before the cocoon was fnlly formed, to multiply the numher of cocoous at tbe expense of quality.

Similar questions seem also to have arisen with regard to the application of tbe bounty for trees. Can the amount of $250 be claimed for each numher of 5,000 trees in a plantation; or will any one plantation numbering five times 5,000 trees be entitled to five bounties of $250 each. There also appears to be a question of doubt as to intent of the law in defining the age of trees, and the proper distance apart for silk culture.

While these matters may have little to do directly with the establishment of the silk bnsiness, they are of much importance to tbe public treasury. There will most probably be found the coming season, fully 15,000,000 trees in the State two years old, and fit for silk culture; possibly 100,000,000 eggs. By a free construction of the law the trees will draw bounties to the amount of $750,000, and the eggs $300,000, or $1,050,000 in all; while by a close construction tbis sum would probably be reduced to less than $100,000. Tbe law should be construed witb a reasonable liberality towards the silk culturists; but careful investigation sbould be made into the facts before any bounty whatever is paid. The next legislature should and probably will repeal the present law, and pass another offering reasonable bounties for the prodnction of raw, spun, and woven silks. A few thousand, or even a few hundred thousand spent in a proper encouragement of the silk business in this State would soon return to us an hundred fold.

The Silk Growers in Council.

A meeting of persons engaged in silk growing was recently held in Sacramento, having for its object a comparison of notes and interchange of statement upon all matters pertaining to the business of silk growing. The meeting, although an open one, was held uuder the auspices of the Pioneer Silk Growers' Associatiou. Most of those present, ahout twenty-five in nnmber, who were not already members of the association became such, by the payment of the small fee required. Interesting and instructive remarks were made by Capt. Blanding, Mr. Hoag and others. Among other business a committee of correspondence was instituted and instructed, in addition to tbe usual duties of such a committee to procure a uniform paper, to be stamped with the Seal of the Association, for the use of the members in saving the eggs of the worms. The object beiug to prevent imposition by traders in European countries, in counterfeiting California eggs, which has been done the past year, to a very great extent. All other associations of silk growers in this State were invited to coöperate in this last matter.

Encouraging remarks were made with regard to the present condition and future prospects of the silk business in this State. The members appeared to be in earnest in their efforts for its advancement, and willing to lay aside all selfish considerations for the general good. Several ladies were present, as silk growers, which added much interest to the occasion, and gave a practical demonstration of the fact that this was a business in whicb women and children might become active and useful coöperators.

were produced in this State last aeason, it has heen very difficult to find a sufficient quantity of merchantable ones to furnish the silk for the national flags, above alluded to, which the State desires to manufacture from native cocoons—the one to be raised over our new State Capital, the coming winter, and the other for tbe National Capitol at Washington.

Nature of the Luminiferous Ether.

Tbe following is part of a communication to the Boston *Journal of Chemistry*: "Some conteud that it consists of ordinary matter in an exceedingly rare condition; othera believe it to be characteristically different, being, for instance, void of gravitation. Of the ultimate constitution of matter, we know little or nothing. While aome contend that it consists of ultimate particles of definite size and shape, others deny the existence of *atoms* altogether. From analogy, we might fairly infer that what constitutes a cbemical atom is not an ultimate atom, even if we admit the existenco of ultimate atoms. When, from the imperfection of our senses, we are no longer ahle to trace the subdivision of matter we should not conclude tbat we have arrived at the limit of its actual subdivision; but, as we know that in the celestial space wo have suns innumerahle, each of whicb has probably a retinue of planets; and each sun, with its planets, constituting but a *molecule*, as it were, of a great stellar system,—creation thus extending tbrough *infinite* spaces,—we may tberefore fairly infer that in the desceuding scale of creation tho same condition also exists; that is, each chemical molecule is a collection of chemical atoms, each atom of which is probably a collection of innumerable sub-atoms, thua descending also to infinity.

It may be objected that we can have no conception of a universe of infinite extent, or of an infinite subdivision of matter. Tbis is true; but we know that *space* is infinitely extended, and as we find matter occupying space everywhere, we have no difficulty in admitting that where there is space there *may* he matter. Therefore creation *may*, obviously, be infinite in extent, and chemical atoms may be, and probably are, iufinitely divisible.

I infer, therefore, that the ether is matter in no respect different from ordinary matter, except that it is in a finer state of subdivisiou than our chemical atoms, but capahle perhaps of couversion into chemical atoms hy a process analogous to that by which stellar systems bave been formed from nebulous matter."

A Canadian Exodus.—The New Dominion does not seem to be in a very prosperous condition, even when excepting the "moral rebellion" in Nova Scotia. Tbe people are rapidly leaving every part of the Dominion, and manufacturing and commercial interests are suffering greatly in consequence. Things are equally as unpromising in the little patch of British territory sandwiched in between Alaska and Washington Territory. The establishment of the new government is greatly increasing taxation, without any corresponding benefit—that's what's the matter. Annexation to the United States is the ouly remedy. At the present rate of depletion, there will be scarcely anything but unpopnlated territory to annex in ten years from this time.

Forces of Nature.—According to the law of Carnot, heat can he converted into mechanical force only when it passes from a warmer to a colder body. The radiation and conduction by whicb tbis is effected, tend to induce an equilibrium of temperature, and consequently to annihilate mechanical force. The same destruction of energy is always proceeding in other natural processes. Professor Thompson has deduced from this law of Carnot, that the universe is continually tending towards a state of eternal rest, and that its store of available force must become at length exhausted, uuless replenished by a new act of Creative Power.

Spars.—A contract has heen made at Victoria for the shipment of a largo quantity of spars from British Columhia to England.

In every plaster of paris statue or ornament there is one pound of water to every pound of plaster.

Mechanical Progress.

Krupp's Establishment at Essen.

A correspondent of the *Scientific American* has recently visited these works. He says that the most extensive similar establishments in England bear about the same relation to Mr. Krupp's works that a yacht does to the Great Eastern. "It covers a continuous surface of 450 acres, 200 of which are under roof. The men employed number about 14,000. At the present time 180 steam boilers are used, evaporating 200,000 cubic feet of water into steam of four atmospheres pressure every twenty-four hours; and 12,000 gas burners consume, in the same time, 500,000 cubic feet of gas—the gas being lighted night and day. There are about twenty miles of rails traversing the works in every direction, upon which run seven locomotives and 150 wagons. Here is the largest forging steam hammer existing; the 'drop' alone weighing 100,000 pounds, and the casting for the hammer block 300,000 pounds. The foundation for this hammer is 60 feet deep, built up with timber and iron.

I was shown a 1,000-pound rifle breech-loading gun intended for coast defense service. It consisted of an inner tube, upon which were shrunk cast steel rings. The inner tube when finished weighed 20 tons, and was forged from a massive ingot of 40 tons; and the cast steel rings about 30 tons —total 50 tons. The diameter of bore was 14 inches, the total length 9 feet 2 inches, the weight of solid shot 1,212 lbs., the weight of shell 1,080 lbs., and the charge of powder from 110 to 130 lbs. It required sixteen months to manufacture this gun, working day and night. It reposes upon a steel carriage of the weight of 15 tons, and together they work upon a turn-table of 25 tons. The total weight of cannon, carriage and turn-table was 90 tons. The gun carriage slides smoothly upon the turn-table, and the necessary mechanism for working the gun is such that one or two men can easily elevate, depress, and turn the gun, and can, with the utmost certainty, follow and cover any passing vessel. The cost of this gun mounted complete is $187,000 gold."

Liquid Fuel in Iron Manufacture.—*The Engineer* has witnessed some experiments with vaporized creosote as fuel, in the bending of heavy armor plates. The furnace was heated by six jets; which entered it through small openings in the sides. Air was also admitted through the same openings. A plate 7½ feet long, 3 feet wide, and 6 inches thick, was placed in the furnace one hour after the fire was first lighted. In one hour and a half more, it was ready for bending. With coal, the furnace could not have been heated up to the proper commencing point in less than four or five hours; and for the heating, one hour per inch of thickness is usually allowed. It would therefore have taken ten hours at least, with coal, to do the work here done with creosote in two and a half hours. Another very important fact is, that there was scarcely any *scale* compared with that produced by the ordinary furnace. The journal named above says that the result of the experiments was highly satisfactory; and declares that a new era in the science of metallurgy has dawned.

The New Telegraph Wire.—The following is the mode of manufacture of Mosee Farmer's new compound telegraph wire, which is said to have already proved itself superior to anything heretofore used. We find it in the proceedings of the Polytechnic Association of the American Institute as reported by the *Artisan:* "Fine steel wire, cleaned in the usual way with acid, is coated with tin by being drawn through a molten bath of that metal. Pure copper, previously prepared in thin stripe, is lapped around the wire by machinery made for the purpose. After this the copper is cleaned with dilute muriatic acid, and the wire is again drawn through the bath of melted tin, which not only coats the copper with tin but brazes it to the steel wire or core. It was asserted that not only is the conductivity of this wire several times greater than that of ordinary telegraph wire, but that from its tinned surface it is inoxidizable, and consequently durable in the extreme."

To Ascertain Amount of Carbon in Iron.

Professor Eggertz, of the Swedish School of Mines, at Fahlun, gives a process for determining the absolute percentage of carbon chemically combined with iron, which J. Wharton translates for *Silliman's Journal*. We quote: "When steel or pig iron, containing carbon in chemical combination, is dissolved in nitric acid, a soluble brown coloring matter is formed, whose coloring power is quite intense, and the solution assumes a tint which is dark in proportion to the quantity of the chemically combined carbon. Iron and graphite (or free carbon), do not influence this coloring, for the solution of nitrate of iron is colorless, or at most, slightly greenish, unless extremely concentrated, and graphite is insoluble in nitric acid. Thus, in dissolving two pieces of different steels of the same weight in nitric acid, taking care to dilute the darker solution until the two liquids present exactly the same color it is very evident that the more highly carbureted steel will furnish the larger quantity of liquid, and that the proportion of the volumes will indicate the relative proportion of carbon in the two steels. If now the composition and contents of carbon of one of the steels is known, the absolute percentage of carbon in the other steel may be immediately deduced. Suppose that one gramme of each of two steels (a and h), have been dissolved, and that the volumes of the two solutions, brought to the same degree of coloring, bear the relation to each other a : b : : 5 : 7. Knowing that the steel (a) contains one per cent. of carbon, you at once deduce that the steel (h) contains 1.4 per cent of carbon."

Divers precautions are enjoined. The use of nitric acid containing hydrochloric acid must be avoided, because the solution of iron would have a yellow tint.

In proportion as the metal contains more carbon, more nitric acid must be used. The operation should always be conducted under the same circumstances as to heat any length of time.

Boiler Explosions—A New Cause Suggested.—In our issue of June 5th, we gave a notice of the experiments and conclusions of Mr. Tomlinson, in reference to certain phonomena of boiling liquids, condensed from *The Engineer*. That journal since publishes a letter, the essential portion of which we copy:

"Your report of Mr. Tomlinson's paper, 'On the Boiling of Fluids,' has reminded me of a hypothesis that occurred to me a year or two ago, respecting a possible cause of many boiler explosions which have hitherto remained inexplicable.

My idea is, that water or other fluids when quiescent are capable of receiving an increase of temperature, without a corresponding change of their bulk and density, to an extent which is not at all appreciated; and that the moment any motion from extraneous sources commences, the equilibrium is totally destroyed, and the fluid instantaneously attains its normal condition. The way in which this operates in a steam boiler is, that when the engine is standing, the safety valve closed, and the feed off, the water becomes highly superheated, until, on the opening of the stop valve, a disturbance is caused, when the surplus heat instantaneously transforms a large quantity of the water into vapor, at a great pressure, endangering the boiler. This would be prevented by some action, such as that described of Mr. Tomlinson's nuclei, or a provision by which a continuous escape of steam, however small, is allowed."

Big Locomotive.—The "Liverpool" was built for the London and Northwestern Railway. The cylinders were eighteen inches diameter with twenty-four inches stroke; the driving-wheels two in number, and eight feet diameter. The weight, thirty-five tons. The tender weighed twenty-one tons; thus making the total weight fifty-six tons. The boiler contained 2,290 square feet of heating surface. But it "used up" the road too fast, and was withdrawn from service.

Corundum Wheels.—W. E. Driscoll, of Bedford, Ind., writes to the *Dental Cosmos* as follows: "Presuming that many have been annoyed in getting corundum wheels to run true, or to give them an even surface when rough, each indispensable in making good joints, I offer the following suggestion: The wheel being adjusted to the lathe, revolve it very fast, holding a piece of corundum stone against the uneven or wabbling surface, and in a short time you will find the *piece* melting and uniting with the wheel, so as to make it perfectly true in all respects."

Scientific Progress.

The Rival Theories of Light.

Professor Tyndall, in a recent lecture at the Royal Institution, explained the reasons why the wave theory of light is now universally accepted, instead of the emission theory advanced by Newton, and supported by Laplace, Biot, Malus, Brewster, and other noted physicists. We quote paragraphs from the lecture as reported in *The Engineer*, giving some of the reasons: "If light consist of minute particles, they must be shot out with the same velocity by all celestial bodies. This seems exceedingly unlikely, when the different gravitating forces of such different masses are taken into account. By the attractions of such diverse masses the particles would, in all probability be pulled back with different degrees of force; and hence the light emitted by different bodies would move with different velocities. That such is not the case—that light moves with the same velocity whatever be its source—renders it probable that it does not consist of particles thus darted forth. According to the emission theory, when a light particle approaches a refractive surface obliquely, it is drawn towards the surface, as an ordinary projectile is drawn towards the earth. Like the projectile, the velocity of the particle is augmented during its deflection; it enters the refracting medium with this increased velocity, and once within the medium, the attractions before and behind the particle neutralizing each other, the increased velocity is maintained. Thus it is an unavoidable consequence of the theory of Newton that the bending of a ray of light towards the perpendicular is accompanied by an augmentation of velocity—that light in water moves more rapidly than in air, in glass more rapidly than in water, in diamond more rapidly than in glass. In short, that the higher the refractive index the greater the velocity of the light. But it has been demonstrated by the most rigid experiments that the velocity of light diminishes as the index of refraction increases. The medium which transmits light, assumed to be of extreme elasticity and of extreme tenuity,—fills all space, and surrounds the atoms of all bodies. The reflexion of ether waves obeys the law established in the case of light; the angle of incidence is demonstrably equal to the angle of reflexion. In the case of refraction the ether wave is retarded as it enters glass; consequently, the end of the wave which touches the glass first is retarded more than the other end, and this causes the wave to swing round so as to take a fresh direction. Waves of light are of different lengths, and refracting substances retard short waves more than long ones, so that a prism throws colored and not white light upon a screen. Color, in fact, is a phenomenon of wave-length, and white light is made up of a mixture of all the colors. Ether waves gradually diminish in length from the red to the violet. The length of a wave of red light is about 1·39000th of an inch, and that of a wave of violet light, about 1-57500th of an inch. By means of these data, it is calculated that the number of undulations, produced by red light, in the ether which touches the retina, is 477,000,000,—and by violet light, 699,000,000,—per second!

Formation of Graphite.—Berthelot has communicated to the Academy of Sciences a memoir upon the various modifications of carbon, which is full of new and interesting matter. We quote a paragraph from *Comptes Rendus:* "The intense heat produced by combustion in oxygen converts a small portion of gas-retort carbon into graphite. Berthelot suggests that it is in this manner that natural graphite has been formed, the amorphous carbon, being more oxidizable at a low temperature, having been gradually dissolved. This view derives some support from the presence of a trace of graphite in lamp black. Electricity also converts amorphous carbon into graphite, the carbon carried over to the negative pole being found to contain a considerable quantity of the latter, while the positive pole contained only a trace. The actual transference of the carbon is not however necessary for the formation of graphite; carbon from sugar softened by the heat from a battery of 600 pairs being found to contain graphite in large proportion. Carbon separated from hydrocarbons by the agency of heat does not contain a trace of graphite, while that which is separated by heat from the sulphide or chloride of carbon or by chlorine from boron contains a considerable quantity."

American Museum of Natural History.

New York has at last made a movement towards the establishing a Museum of Natural History. A recent act of the Legislature constituted seventeen wealthy and public-spirited business men Trustees of a corporate body to be known by the above title. The *Tribune* says: "Nearly $50,000 has already been subscribed toward this enterprise, and the Central Park Commissioners have generously offered the use of the fine hall in the Arsenal Building as a place where the collections may be deposited, and exhibited to the public until the erection of a special museum edifice. The only specimen yet received is the skeleton of a whale, seventy feet long, contributed by Peter Cooper, who has also given the museum the privilege of digging near Poughkeepsie for a mastodon, some bones of which have already been taken out. A large part of the great collection made by Professor Albert S. Bickmore, of Cambridge, during his travels through the East Indian Archipelago, has been definitely secured for this new museum, and successful negotiations are in progress for obtaining magnificent collections of shells, of butterflies, and of the birds of America and Africa, and also for securing a complete set of all the works of Linnæus, which, it is said, not even the British Museum possesses. A gentleman of much energy and ability and of wide experience as traveler and naturalist, has had special supervision of the enterprise thus far, and will doubtless be made superintendent of the museum."

Trichlormethylsulphonochlorid.—The simplest way to prepare the chlorid, with the above unpronounceable name, according to O. Loew,—who gives a paper upon the subject in *Silliman's Journal*,—is the following: "300 grms. bichromate of potassium in pieces of the size of a pea, 500 grm. common hydrochloric acid, 200 grm. nitric acid of the common strength, and 30 grm. bisulphid of carbon are mixed in a flask, filling it to one-fourth of its capacity and loosely stoppered. It is kept cool in the beginning and shaken from time to time. In about eight days the process is finished. In direct sunlight only four days are required. By addition of water the chlorid and nitrate of potassium are dissolved, and there remains the insoluble trichlormethyl-sulphon-chlorid. It is filtered off, washed, and pressed between sheets of filter-paper."

Fossil Reptiles in Brazil.—Professor Marsh describes the tooth of a large Crocodilian, of a species new to science, from Bahia. Other reptilian remains from Brazil, together with divers fishes and other fossils, collected during the past six or eight years, will be described in a forthcoming work on the geology of that region, by Professor C. F. Hartt, of Cornell University. Professor H. was, in 1867, engaged in an exploration of the coast of Brazil, and himself collected many of the specimens, which were submitted to Professor Marsh for examination and description.

Complementary Colors by Reflected and Transmitted Light.—A plate of glass is coated with a layer of the violet colored ink, made from aniline color, now much used, and allowed to dry. If we place this in such a position that light is reflected from its surface to our eyes, it will appear of a metallic golden color, as though coated with a gold bronze; but if we look through it at the light, the color will be a rich purple. Salts of the sesquioxide of chromium, which are green by reflected, are red by transmitted light; a solution of ordinary litmus is blue by reflected, but red by transmitted light.

Number of the Stars.—Herr Von Littrow has prepared and presented to the Vienna Academy an enumeration and classification of the stars in the northern hemisphere. According to this, the total number of stars in that hemisphere, of from the first to the sixth magnitude, is more than two thousand millions.

Chemical Action Arrested by Pressure.—M. Cailletet is investigating this subject. In one of his experiments, sulphuric acid remained in contact with an excess of zinc in a revolving tube hermetically closed, for twelve days without becoming saturated.

Farming and Gardening.

Agricultural Progress—Herr Schnell and his Enterprise.

The introdnction of new branches of agricnlture into our extensive domain, and the ntilization of lands hitherto considered of but little value, is one of the most important considerations connected with the future growth of California. Gold and grain have hitherto been our standard staples, and in their prodnctiou no country on the globe can excel us; but we need variety in our productions, and we mnst have it if we would draw around us a dense population, and reach that climax of prosperity to which all Californians are looking.

We have been talking about wine and silk and tea for many years, and, to all appearances, with a very satisfactory degree of success. Our fame as a grape-growing and wine-producing State is now quite well established, and the business has already reached an extent and importance, which renders its future development into a leading hranch of industry a matter of undoubted assnrance. The same may be said of silk. The present condition and future prospect of this latter husiness in California is dwelt upon at length in another column of this issue.

The cultivation of tea has for several years been intimately associated in the minds of Californians, with the production of wine and silk. The few experiments already made in this State, coupled with the more extensive and practical ones in Pennsylvania and Georgia, had already fully impressed the minds of many of the more thoughtful of our citizene with the idea that this leading product of Chincse industry might be successfully transferred to the Golden State. Much, however, as we were anticipating in this direction, the pnblic was hardly prepared for the important enterprise which our newly-arrived coadjutor, Herr Schnell, has already set on foot. The promptness and confidence manifested in the unheralded movements, and the magnitude of this undertaking, affords the surest guarantee of his thorough acquaintance and ultimate success with the same.

A most important feature connected with this enterprise, is the mixed character with which it has been clothed. Agriculture, unlike most other occupations, never flourishes when undivided attention is given to a single production. Our wheat growers are already finding out this fact, at the cost of a dearly-bought experience. Herr Schnell, profiting by the experience of the oldest agricultural people on the globe, has wisely recognized this fact at the start, and will introduce at one and the same time the culture of the mnlberry, the tea plant, the grape, the bamboo, the wax tree, rice, etc. The plantation eystem, with its thriftless and exhaustive character of cultivation, will be entirely ignored. Each family will have its allotted piece of land, cultivate its own trees, feed its own worms, spin its own cocoons, and receive pay therefor according to the quantity and quality of product. This system secures personal interest and personal care in the entire process. Tea and other products will he cultivated on the eame principle. The several families will cultivate their own tea gardens, pick their own leaves and deliver them to the factory, where the curing process will be carried out in a uniform manner, so as to secure a known product and a reliable market.

The cultivation of the tea plant forms the most interestiug feature connected with this enterprise. The Japanese whom Mr. Schuell brings with him, are particularly ekilled in this business, and express themeelves highly pleased with the capacity of our soil and climate for that culture. The p'aut rather prefers elevated situations, and thrives best on ligh', stony ground—just the character of our foot-hills. A continued sunshine is all important in perfecting the juices, and color of the leaf. Rain is very detrimental to them, especially in the latter part of their growth. Good tea cannot be made from leaves plucked in rainy weather. Four hundred pounds of tea, it is said, have been produced on an acre of ground in Pennsylvania, and a much larger production may he expected here. There is no question whatever as to the superior fitness of California for this branch of industry; and we look confidently for the time when our foot-hills will be covered with tea plants, not for our own consumption alone, but for large export to the Eastern States.

The Dusty Side for Farming.

All intelligent observers must have noticed that the trees along the leeward side of much frequented roads, especially when exposed to the influence of prevailing winds, manifest a luxuriance of growth, superior to those upon the opposite side of the same road. The same fact has often been noticed, wheu traveling between opposite grass, or wheat fields similarly located. More careful attention has recently, and with good reason, ascribed this fact as due to the dust from the road, which is carried into the field by the wind. Dry road dust, such as is raised and swept away hy the wind, contains from eight to ten per cent. of organic matter which may have fallen in the road and been finely pulverized by the passing wheels and hoofs. This matter is in just the state to enter rapidly into decomposition, and form a readily soluble nourishment for vegetation. An intelligeut Eastern farmer, who has been among the first to observe this fact, says: "When I buy a farm for one of my sons or daughters, I always select it on the dusty side of the road." Dust is very annoying to the senses, and in a rainless climate like this, it may sometimes be injurioue to vegetation, especially when it adheres firmly to the leaves of such trees and plants as exude a slight gummy fluid to mix and form a sticky substance with the dew. But street dnst is always very fertilizing, and, on the whole, beneficial rather than otherwise, especially when occasional raius occur to wash it from the vegetation on which it may have lodged. It is in snch, at first, uuapparent causes, that an explanation of many of the declared mysteries of vegetation may be found; and that man will be most likely to succeed as a farmer, who is of an observant turn of mind, always eeeking for information, and ready to make the best possible use of it when required.

To Keep Birds from Cherry Trees.

Every one who has grown cherries has no doubt been vexed and disappointed to find that just as his finest fruit becomes nearly ripe it is devoured by multitudes of different kinds of birds. A resort to shooting not only injures the trees, but in the end works a serious damage by killing off the insect destroyere. Moreover, destroying a few birds in one or two localities, in any manner, does but little towards getting rid of the annoyance, while putting nets over the trees is an expensive and impracticable arrangement in an extensive orchard. A suitable scare-crow is probably the hest remedy. The difficulty with this is that no ordinary device of that kind will answer, as the birds soon find out the "cheat" aud cease to mind it. The best thing is to get a good-sized stuffed hawk, and set him, with distended winge, upon a tall pole overlooking the trees. Don't put him up, however, until the birds begin to eat the cherries; for, until that time, they are your best friends, in daily consuming au immense quantity of insects, which would otherwise annoy you. Take the hawk down as soon as your cherries are gathered, so that the birds may once more commence their friendly work. If you are a good gardener and a humane person you will leave a few cherries on the ends of the limbs for the benefit of the little warblers. Such thoughtfulness will hring them back all the quicker after their enemy is removed.

Those who have tried this device at the East, and many have done so, speak highly of its efficiency. They report the consternation of the hirds as quite amusing when on coming for their usual meal they get the first glimpse of their well known enemy. The sndden wheeling and twittering, and flying off on the double-quick, assures the gardener that his cherries will now be allowed to ripen unmolested. One hawk will sometimes answer for half a dozen trees. Of course you must first catch your hawk—a matter of some difficulty, we apprehend, in this country. But it would pay well to send to the East for them. We have seen it stated that they can be bought in New York for a dollar apiece, properly etuffed. One hawk will often save $20 worth of cherries or more in a single season; and if taken care of, will last, in our dry summers, for an indefinite number of years. Perhaps we may have some other birds on this coast that may be more easily obtained, and which will answer every purpose. It may not he too late for some of our cherry-growers to try this experiment even the present season.

The Bamboo.

The bamboo, the culture of which is about to be introduced into this State, by the Herr Schnell Japanese Colony, is a very interesting and important plant. The Chinese reckon not less than 60 varieties. The plant is an arborescent grass, and forms the connecting link between the true grassee and trees. It sometimes grows to the hight of 60 feet; but usually not more than 30 or 40. In diameter it varies, according to kind, from one to eight inches. The Asiatics employ it very extensively for roofing purposes, and sometimes construct entire dwellings of it. The Chinese sometimes make boots of it, and also use it for the manufacture of ropes, sails, and cloth for various purposes. The pith is used for lamp aud candle wicks; while the firmer outside covering softened, flattened and dried again, is by carving and inlaying, wrought into various and beautiful ornaments. Pencils are made from it for the scholar, and brushes for the artist. Its roots are carved into various ornamental or grotesque characters. The ehoots of the young plant are preserved as sweetmeats and as food. The young sprouts, when boiled, partake very much the nature of asparagus; they are exceedingly palatable and nutritious, and are of mammoth proportions, compared to the asparagus of our gardens. In short, there is scarcely anything in China, either on land or water, into the composition of which bamboo does not in some way enter. The plant does well on a comparatively dry soil, which should be loose and sandy; although it is usually grown on the banks of rivers in China, for the double purpose of economizing ground, and to give support to the river banks. If the roots, however, reach permanent water, the plant dies. It is multiplied by cuttings, and will no doubt take kindly to the foothills of California.

Plants that Grow Well in the Shade.—All the broad leaved evergreens will grow in the shade of trees, provided the roots of trees do not exhaust the soil. Kalmias, rhododendrons, daphne, tree box, ivy, vincas, etc., sweet violet, hepaticas, eome of the campanulas, dicentra, bloodroot, and several of the herbaceous spirzes and saxirages will do well.

Farmers in Minnesota are paying 24 per cent. interest for money to hold their wheat, uot wishiug to take 80 or 85 cents for it.

Window Gardening.

There is a German synonym for flowers, having the beautiful significance of "Smilcs of God;" and there seems to be a universal love for flowers everywhere implanted in the human breast. Flowers are always regarded as one of God's latest and most heantiful gifts. It is a singular fact, revealed to us by geological researches, that the rose, the queen of flowers, is of recent origin—it nowhere occurs as a fossil. Its appearance on earth must have been nearly or quite coeval with man. Some portion of our premises should always be set aside for the nnrture aud enconragement of these beautiful creations. It is in the power of every one, rich or poor, high or low, to secure some bright sunny spot, which may gladden the heart with the lovely and heautiful, of which flowers are ever the expression.

If you cannot have a garden anywhere else, make it in your window. Window gardening is always in the reach of every one. The roughest box of unplaned hoards is better than nothing; and yon can surely plant something there which will grow to delight you with its beauty, refresh yon with its fragrance, and impress the stranger that passes your door with feelings of pleasure and regard for those who dwell within. There is nothing more attractive to the eye of the outsider than plants and flowers in the windows of houses where no spot of earth is spared to the tenant hy the encroaching inroads of brick and mortar. Here is what the editor of *Hearth and Home* says of "window gardening:" "There is a love of plants so interwoven in the make up of many people, that it will gratify itself under the most adverse surroundings. To those who are blessed with this love—for it is a blessing—no hrick aud mortar of the city, nor newness of a backwoods dwelling, prove any obstacle. As we go about the streets of our large towns, we admire the well kept places, but not the less do we stop to note the humhle efforts at horticnlture that are made upon window sills or upon some favoring roof. What pleasure often grows in a discarded eauce-pan or other domestic utensil, which, having served well in its proper ephere, is glorified by being the home of a balsam or an aster."

Moss on Flower Pots.—Ladies who are fond of cultivating flowers in the house, will find great benefit to the plants by spreading a coat of moss over the earth in their flower pots. This keepe the water from evaporating, and the temperature more uniform. Tea grounds are often used for the same purpose. Where a flower pot etands in a saucer, with a hole in the bottom of the pot, put a littlo sand in the saucer, and cover it with moss, and you have a simple and admirable arrangement.

New Way to Kill Weeds.—Beecher says that the only way to exterminate the Canada thistle is to plant it for a crop aud propose to make money out of it. Then worms will gnaw it, bugs will hite it, birds peck, heat will scorch it, and mildew and blight will cover it.

One of the aims in farming should be to produce as far as possible everything you need to consume—to buy nothing you can raiee yourself.

Boston Peace Jubilee.—O'Baldwin, the Irish Giant, is to beat a mammoth bass drum, eight feet in diameter. Each head of this drum rcquired, for its making, the hide of a mammoth ox; it being found,—says the New York *Tribune*,—impossihle to procure the hide of an elephant!

Northern capital is rapidly investing in Southern real estate. A New York gentleman bought 14,600 acres of rice and timber lands in South Carolina for $40,000, and 24,000 acres of plantation land in the same State for $28,000.

Stock Review.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, June 19, 1869.

Financial.

Money is not over-abundant in this market just at present; but for the prosecution of legitimate business there is no actual stringency. The pressure is more severe upon domestic produce, the prices of which depend upon the markets of consumption where they are at a low ebb. There is no activity in real estate, and nearly all stocks are more or less depressed. No disposition is evinced to make anticipatory purchases of incoming crops, as no one can possibly form any accurate estimate of the demand or the prices that may rule when they are actually in market. Business is, however, conducted on a sound basis, and the disposition to economize is more pronounced.

A new savings bank, entitled the "Union Savings Bank," has been incorporated in Oakland, and will commence operations on the first of July. Its officers are as follows: President, A. C. Henry; Cashier, H. A. Palmer; Directors—John B. Felton, J. West Martin, A. C. Henry, John C. Hays and E. Bigelow. There are several other localities where the establishment of savings and loan institutions would prove valuable auxiliaries to local interests. Los Angeles, for instance, offers an excellent field. It is the center of large vineyard productions, which are steadily increasing in number and value, and has also extensive farming and stock raising interests.

The U. S. ship Pensacola recently arrived from Mexican ports with specie to the amount of $360,000, and the steamer California brought $133,000 from Victoria.

Crops of all kinds throughout the State look promising and will give heavy returns in a majority of districts, while in others, where careless and inefficient farming was done, the yield will be proportionably small. Considerable hay has been spoiled in the sea-coast counties by heavy fogs and light showers; nevertheless, the supply will be ample. It is a noteworthy fact that while comparatively new and fertile lands in the Western States have diminished their yield of wheat per acre nearly 30 per cent., the old and apparently exhausted lands of New England have given an increased return equal to 20 per cent. This is the legitimate result of careful and intelligent farming. It pays better to realize 60 bushels per acre from 100 acres than to obtain only 30 bushels per acre from 200 acres. We see it stated in an Eastern contemporary that a farmer in Pittsfield, Mass., with the aid of a corn planter, actually planted 2,720 hills in 54 minutes, or nearly an acre to the hour.

Bullion is in light supply, but the demand is not very active. We quote gold bars at 870@880; silver bars remain unchanged, from par to ¼ per cent. premium; currency bills on Atlantic cities pay 35 per cent. premium on gold; coin drafts, 1½ per cent. premium; telegraphic transfers, 1¾ per cent. premium; sterling exchange, 48¾d; commercial exchange, 49¼d; Mexican dollars, 5@6 per cent. premium; gold in New York, June 18th, 137¾; Legal Tenders in this market, 73¾@74.

Unusual activity prevails in all the navy yards of the country, while men are being enlisted in great numbers at all the rendezvous. Orders have been given to place every war ship in the navy in commission with the greatest dispatch. The monitor Monadnock has just been got ready for service with a full complement of men, arms and ammunition. We can form no idea why these formidable preparations are made, but have no doubt the Government is acting on well-advised grounds. It is possible that the recognition of Cuba has been resolved upon, but we are by no means prepared to assert it as a fact. It is very certain, however, that the Government will initiate nothing of a hostile character against any other power, but is determined not to be caught napping.

The citizens of Santa Barbara are moving to build a road to Tulare county for the purpose of attracting the trade of Kern river, Lone Pine and White Pine, as they claim that it will give the shortest and most direct route from the interior to the sea.

The Exports of Treasure from June 1st to date, have been as follows:

June 1—Per Golden City—		
To New York	$ 87,524 81	
To England	669,960 54	
To France	7,000 00	
To Panama	20,000 00	
		$ 784,485 35
June 4—Per China—		
To China	$743,008 20	
To Japan	426,954 08	
		1,170,052 28
June 9—Per Montana—		
To New York	$ 50,000 00	
To England	235,365 76	
To France	38,852 17	
To Central America	151,158 42	
To Panama	23,200 00	
		498,576 35
Total since June 1st, 1869		$2,453,114 08
Previously this year		15,970,193 98
Total since January 1st, 1869		$18,423,308 06
Corresponding period, 1868		18,939,431 42
Decrease this year		$516,123 36

The duties paid at the Custom House, in this city, from June 11th to date have been as follows:

June 11	$ 7,290 45
June 12	18,241 10
June 14	53,408 90
June 15	28,583 49
June 16	21,498 26
June 17	28 315 14
Previously in June	188,353 15
In June to date	$345,695 49
In May	575,030 24
In April	554,882 05
In March	780,447 40
In February	692,340 00
In January	532,997 97
Total since January 1st, 1869	$3,391,393 15
Corresponding period, 1868	3,699,864 55
Decrease this year	$308,471 40

City Stocks.

The Stock Board sales during the past week of miscellaneous securities were confined to a few companies, and in amount quite small. Spring Valley Water Co. stock realized $35 25@35 per share. The annual meeting of the stockholders of this company will be held at 12 o'clock, M., June 19th.—Five shares of California Steam Navigation Co. stock sold at 57 per cent. A dividend of 1 per cent. per month, aggregating $25,000, is payable since the 15th inst.—Omnibus Railroad Co. disbursed its usual monthly ½ per cent. dividend on the 15th inst. The annual meeting of stockholders will be held on the 5th of July next.—The California Powder Works disbursed a dividend of 1 per cent. for the month of May, amounting to $3,000, on the 14th inst.—The California Insurance Co., at a meeting held on the 16th instant, adopted a resolution to increase the capital stock from $200,000 to $300,000. The additional amount of stock will be placed to outside parties at the rate of $1,600 per share of $1,000.—Five shares of Bank of California stock were sold in the Board, on the 16th inst., at $150 per share. Offers were immediately made for any part of 500 shares at the same rate. This institution paid its usual monthly dividend of 1 per cent., equal to $50,000, on the 15th inst.

Mining Share Market.

The mining share market during the past week experienced a very material decline from prices previously obtained, and a falling off of business is also noticeable; however, the number of stocks dealt in embraces more than the usual variety, including a larger number of White Pine stocks. The latter description of stocks is receiving increased attention at the hands of San Francisco dealers, which has not been the case heretofore. Further satisfactory developments through the efforts of California and Nevada capitalists have produced this reaction, and henceforth we may look for a very fair business in this line of stocks. Considerable quantities of bullion are beginning to make their appearance from the White Pine district, which will be augmented as mill facilities increase. At the close a much better feeling prevails and the various descriptions of stock, with but few exceptions, show a considerable improvement.

Chollar-Potosi—sold to a moderate extent, at a heavy decline. In our last issue a serious error occurred in reference to this company. The annual report credited to the Chollar-Potosi should have been to Crown Point, and the closing paragraph of the statement, after the word "Secretary," should have been under the heading of Chollar-Potosi. During the week ending June 11th this company extracted 1,823 tons of ore, against 1,477¾ the previous week, and forwarded 1,477½ to the mills during the same time, leaving on hand 345½ tons. All the faces in the Blue Wing stope are reported to be producing good ore in increased quantities. The New Tunnel developments are affording excellent ore, showing an excess over previous yields. The branch drift to the Grass Valley deposit from the Potosi tunnel is in ore, and the indications are that the main body is further west. On the 14th inst. the ore slip shows that 266¾ tons were delivered to six different mills on that day.

Gould & Curry—changed hands in small amounts and reduced rates. The report for the week ending June 14th shows that 434 tons of ore were taken from their upper works, and that they shipped 319 tons to the mills for reduction, leaving 403 tons on hand. The timbering of the shaft has been completed, and the sump is 18 feet in depth below the station set. Fifteen days more will be required to put the shaft in good condition, after which the opening of the seventh station will be commenced.

Hale & Norcross—exhibits a very material decline. During the week ending June 12th 1,300 tons of ore were extracted, and in the same time 919 tons were delivered to custom mills, leaving 1,382 tons on hand. The fifth station developments produced 759 tons of the above amount. The various stopes are reported to be looking well.

Kentuck—has been pretty active under a sharp decline. An assessment (No. 1) of $10 per share was levied on the 14th inst.—Savage has been less active, but has also receded from previous prices.—Imperial shows no change for the better in its lower workings. The annual meeting of stockholders will be held on the 29th inst.—The Ophir drift was in 361 feet on the 15th of June.

Amador (Cal.)—continues to be well maintained. A letter of the 14th states that the north shaft is down 101 feet below the San Francisco level, and that they are working toward the Badger drift, in which the vein is increasing in size. All the stopes are looking well. The May receipts aggregated $61,576, and the first clean-up the present month will yield nearly $30,000 in bullion.

The Golden Chariot (Idaho) paid a dividend of $3 per share on the 15th inst.—Of White Pine stocks we make note as follows: Noonday levied an assessment of 30 cents per share on the 14th.—Consolidated Chloride Flat levied an assessment of $3 per share on the 28th of May.—Mammoth levied an assessment of 25 cents per share on the 20th of May last.—Aurora Consolidated reports a shipment of bullion amounting to $7,337, contained in five bars, the fineness of which ranged from 912 to 994. One hundred tons of ore were shipped to Avery & Co.'s mill on the 13th, and the present week shipments have been made to other mills.—Large sales of Original [illegible]din Treasure were made during the past week. The 76 tons of ore recently reduced at the Newark Mill yielded over $8,200 in bullion, without a thorough clean-up. The ore will probably average $120 to $130 per ton. A lower grade ore is now being sent forward, which will yield about $80 to the ton.

Real Estate in Chicago and this City.—A piece of unimproved real estate was recently sold in Chicago at the rate of $3,400 per front foot—about $2,600 in gold. This was the highest price ever paid for real estate in that city; and yet it is considerably lower than property similarly situated in this city. The highest price paid for real estate in this city was $3,000 per front foot, at the corner of Market and new Montgomery streets.

Weekly Shareholders' Directory, for Meetings, Assessments and Dividends.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

ASSESSMENTS.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Alpha Cons, Storey co., Nev., June 5, $5	July 10	July 31
Blue Rose, White Pine, May 31, 5c	July 10	August 1
Belcher, Storey co., Nev., May 4, $5	June 5	June 24
Bullion, Storey co., Nev., May 22, $10	Payable Immediately	
Cons. Chloride Flat, W. P., May 28, $1	July 7	July 29
Confidence, Storey co., Nev., May 4, $10	June 9	June 30
Cherokee Flat, Butte co., May 1, $2	June 8	July 15
Cayuga Chief, White Pine, May 13, 5c	June 17	July 3
Daney, Lyon co., Nev., May 29, $1.50	July 1	July 19
Daniel Webster, White Pine, May 7, 10c	June 10	June 30*
Douglas, White Pine, May 5, 12½c	June 8	June 21*
Dios Padres, Mexico, April 29, $4	May 31	June 21*
Etna, White Pine, May 12, 10c	June 17	July 7
Edith, White Pine, May 12, 10c	June 17	July 7
French, White Pine, May 4, 5c	June 7	June 28*
Gold Hill Q., Storey co., May 13, $20	June 18	July 9
Hope Gravel, Nevada co., May 17, $1	June 21	July 12
IXL, Alpine co., May 10, $1 50	June 26	July 14*
Julia, Storey co., Nev., May 27, 50	June 29	July 17
Kentuck, Storey co., Nev., June 14, $10	July 15	Aug. 3
Lotta & Poole, White Pine, April 23, 20c	May 31	June 21
Lexington, White Pine, May 18, 15c	June 23	July 12
Marlborough, White Pine, May 4, 5c	June 7	June 28*
Morning Star, Alpine co., May 11	June 21	July 12
Maxwell, Amador co., May 15, $3	June 15	July 15
Mammoth, White Pine, May 20, 25c	June 26	July 15
Mahogany, White Pine, June 17, 10c	July 23	Aug. 13
Metropolitan, white Pine, May 26, $1.50	July 1	July 16
Noonday, White Pine, June 14, 30c	July 19	Aug. 9
Nuestra senora de Guadalupe, May 12, $2	Del. June 26*	
North Star, Nevada co., June 4, $20	July 9	July 30
North Star, White Pine, May 12, 7½c	June 18	July 17
North Bloomfield, Nev. co, May 18, $1 50	June 19	July 5
Overman, Storey co., Nev., May 15, $20	June 18	July 3
Ophir, Storey co., Nev., May 18, $3	June 21	July 6
Phœnix, White Pine, April 27, 25c	May 27	June 26
Pioche, White Pine, April 6, 15c	June 30	July 30
Pocotillo, White Pine, May 17, $1	June 24	July 15
Silver Moon, White Pine, May 31, 20c	July 10	August 1
Silver Wave, White Pine, June 7, 20c	July 8	July 28*
White Pine Water, Lander co., April 14, $50	May 22	June 19

MEETINGS TO BE HELD.

Alpha Cons, Storey co., Nev.	Annual Meeting June 21
Imperial	Annual Meeting June 29
Kewanee	Annual Meeting July 10*
Planet, Arizona, copper	Meeting June 24
Silver Vault, White Pine	Annual Meeting July 1
Silver Sprout, Inyo co	Annual Meeting June 29
Sierra Nevada, Storey co., Nev.	Annual Meeting July 6
Somerville, White Pine	Annual Meeting June 21

LAST DIVIDEND.

Alpha Cons, Storey co., Nev, div. $2	Pay. June 19, 1868
Amador Co., div. $40 per share	Payable May 5, 1869
Bacon, Storey co., Nev., div.	Payable June 19, 1868
Chollar-Potosi, div., $15	Payable June 3, 1869
Conoy, preferred Stock, div. 1½ per cent.	May 10, 1869
Crown Point, dividend, $7.50	Payable Sept. 12, 1868
Empire M. & M., Nev., dividend $5	Payable May 15, 1867
Eureka, div. $7.50	Payable June 10, 1869
Gould & Curry, div., $7.50	Payable May 15, 1867
Gold Hill Q M & M—dividend. $7 50	Payable July 15, 1868
Golden Chariot, Idaho, div. $3	Payable June 15, 1869
Golden Rule, Tuolumne co., div. 20c per sh.	Pay. June 16, 1869
Hale & Norcross, div. $6	May 10, 1869
Imperial, Storey co., Nev., div.	Payable June 20, 1868
Keystone, Sierra co., div., $32	Payable May 6, 1869
Kentuck, div., $20 per share	Payable May 31, 1869
North Star, dividend, $5	Payable Aug. 15, 1868
Occidental, div. $2	Payable March 2, 1869
Pacific Unassessable, div.	Payable June 18, 1868
Sand Spring Salt, dividend $1	Payable Jan. 5, 1869
Santiago, Silver City, Dividend, $2 50	Payable Dec. 19, 1868
Savage, Virginia, Nev, dividend, $4	Payable May 11, 1869
Sand Springs Salt, Virginia, div., $1	Payable May 5, 1869
Sierra Nev., Storey co., Nev., div. $2.50	Pay. June 10, 1869
Virginia & G. H Water Co. Dividend, payable April 16, 1869	
Yellow Jacket, div., $5	Payable March 15, 1869

Those marked with an asterisk (*) are advertised in this Journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD

Friday Evening, June 18, 1869.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ —	—
United States Bonds, 5 20s, 1864	—	—
United States Bonds, 5 20s, 1862	85	86
Legal Tender Notes	73	74
California State Bonds, 7s, 1857	95	—
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87¾
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1866	88	90
San Francisco City and Co. Bonds, 7s, 1862	88	90
San Francisco City and Co. Bonds, 7s, 1864	88	90
San Francisco City and Co. Bonds, 7s, 1865	88	90
San Francisco City and Co. Judg. Bds. 7s, 1865	88	90
San Francisco City and Co. Judg. Bds, 7s, 1864	88	90
Sacramento City Bonds	35	40
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	85	90
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	—
California Steam Navigation Co.	56½	—
Spring Valley Water Co.	34	65
State Telegraph Co.	25	—
GAS COMPANIES.		
San Francisco Gas Co.	78	81
Sacramento Gas Co.	52	53
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	—	72½
Central Railroad	50	—
North Beach and Mission Railroad	68	—
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	150	160
INSURANCE COMPANIES.		
People's Insurance Company	90	95
Firemans' Fund Insurance Co.	94	95
Pacific Insurance Co.	112	116
Merchants' Mutual Marine Insurance Co.	500	520
California Insurance Co.	1400	1500
Union Insurance Co.	99	100
Home Mutual Insurance Co.	19½	20
Occidental Insurance Co.	85	91
MINING STOCKS—WASHOE DISTRICT.		
Alpha	25	26
Baltimore American	—	—
Belcher	26	26½
Bullion, G. H	9	9½
Crown Point	52	5½
Cole (Va.)	—	8
Confidence	—	55
Consolidated Virginia	8	10
Chollar-Potosi	310	315
Daney	1¼	2¼
Exchequer	12	14
Empire Mill and Mining Co.	55	65
Gould & Curry	108	109
Gold Hill Quartz	54	55
Hale & Norcross	155	156
Imperial	83	85
Julia	—	3
Justice and Independent	8	10
Kentuck	180	182
Lady Bryan	22	24
American	15½	16
Occidental	19	19
Ophir	23	23¾
Overman	86	87½
Segregated Belcher	9	9¾
Savage	87	88
Sierra Nevada	33	42½
Union	—	—
United States	60	61
Yellow Jacket	—	—
MISCELLANEOUS MINING STOCKS.		
Amador (California)	277½	285
Aurora, White Pine	22¾	24
Eureka, (California)	205	225
Golden Chariot (Idaho)	44	46
Silver Cord (Idaho)	—	—
Golden Rule, California	10	—
Mollyek (California)	—	—
Pocotillo, White Pine	2	—

San Francisco Market Rates.

Wholesale Prices.

Friday, June 18, 1869.

Flour, Extra, ₱ bbl	$4 75	@	$5 50
Do. Superfine	4 25	@	4 50
Corn Meal, ₱ 100 lbs	2 00	@	2 25
Wheat, ₱ 100 lbs	1 40	@	1 65
Oats, ₱ 100 lbs	1 50	@	1 75
Barley, ₱ 100 lbs	1 00	@	1 25
Beans, ₱ 100 lbs	6 00	@	6 00
Potatoes, ₱ 100 lbs	50	@	1 25
Hay, ₱ ton	10 00	@	17 00
Live Oak Wood, ₱ cord	—	@	10 00
Beef, extra, dressed, ₱ lb	7	@	9
Sheep, on foot	2 50	@	3 00
Hogs, on foot, ₱ lb	5	@	7
Hogs, dressed, ₱ lb	9	@	10
GROCERIES, ETC.			
Sugar, crushed, ₱ lb	14	@	15
Do. China	10	@	—
Coffee, Costa Rica, ₱ lb	19	@	20
Do. Rio	—	@	19
Tea, Japan, ₱ lb	75	@	90
Do. Green	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	10
China Rice, ₱ lb	5	@	6¼
Coal Oil, ₱ gallon	46	@	47½
Candles, ₱ lb	16	@	18
Ranch Butter, ₱ lb	35	@	38
Isthmus Butter, ₱ lb	32½	@	35
Ranch California, ₱ lb	14	@	15
Eggs, ₱ dozen	35	@	42½
Lard, ₱ lb	15	@	17
Ham and Bacon, ₱ lb	14	@	16
Shoulders, ₱ lb	7	@	8
Retail Prices.			
Butter, California, fresh, ₱ lb	46	@	50
do. pickled, ₱ lb	30	@	35
do. Oregon, ₱ lb	20	@	25
do. New York, ₱ lb	35	@	40
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	50	@	55
Lard, ₱ lb	18	@	20
Hams and Bacon, ₱ lb	23	@	25
Cranberries, ₱ gallon	1 00	@	1 25
Potatoes, ₱ lb	1¾	@	2
Potatoes, Sweet, ₱ lb	3	@	5
Tomatoes, ₱ lb	10	@	20
Onions, ₱ lb	6	@	8
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	10	@	12
Peaches, dried, ₱ lb	10	@	18
Oranges, ₱ dozen	50	@	60
Lemons, ₱ dozen	1 00	@	1 00
Chickens, apiece	75	@	1 00
Turkeys, ₱ lb	30	@	35
Soap, Pale and C. O	7	@	12
Soap, Castile, ₱ lb	18	@	20

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, June 18, 1869

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¼@1¾c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.

Scotch and English Pig Iron ₱ ton	$44 00	@	$45 00
White Pig ₱ ton	36 00	@	37 00
Refined Bar, bad assortment, ₱ lb	— 03	@	— —
Refined Bar, good assortment, ₱ lb	— 04	@	— —
Boiler, No. 1 to 4	— 04¾	@	— —
Plate, No. 5 to 9	— —	@	— 04¾
Sheet, No. 10 to 13	— 04½	@	— 5
Sheet, No. 14 to 20	— 05	@	— 5¾
Sheet, No. 24 to 27	— 05	@	— 6½

Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	—	@	— 26
Sheathing, Yellow	— 20	@	— 21
Sheathing, Old Yellow	— 10	@	— 11
Composition Nails	— 21	@	— 22
Composition Bolts	— 21	@	— 22

Tin Plates.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@	— —
Plates, I C Charcoal	— —	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs, ₱ lb	— —	@	— 35
Steel.—English Cast Steel, ₱ lb	— —	@	— 15
Quicksilver.—₱ lb	— 55	@	— 60
Lead.—Pig, ₱ lb	— 7½	@	— 8
Sheet	— 10	@	— —
Pipe	— 11	@	— —
Bar	— 9	@	— 9¼
Zinc.—Sheets, ₱ lb	— 10¾	@	— 11
Borax.—California, ₱ lb	— 35	@	— 38

Plantation Bitters Denounced.—While the community at large entertain and express the highest opinion of Drake's Plantation Bitters, as an invigorating and restorative preparation, there is one class of society that cannot be induced to regard the famous tonic in a favorable light. The fraction of the body politic referred to consists of mean boarding-house keepers. They say that the Bitters interfere with their pecuniary interests. In former days, young men generally were in the habit of indulging freely in bar-room liquors, and the result of an overdose of any of these adulterated stimuli at night was nausea and a distaste for food next day. Many a days' rations was thus saved by the proprietors of the caravansaries in question; but now that the Great Vegetable Stomachic has, to a considerable extent, supplanted all the unmedicated stimulants, and almost every young business man keeps a bottle of it by him to give tone and vigor to his system; the boarding-house interest complains that its guests are twice as hearty as they used to be, and that the beefsteaks and buckwheats suffer accordingly. They are, therefore, violently opposed to the use of this agreeable and potent appetizer.

***

If the type of your evening paper begins to look small, dim or indistinct, apply at once to C. Muller, 205 Montgomery street, for a pair of his A No. 1 Spectacles. *

Job Printing.

We employ the best workmen in this department, and promise our customers—(many of whom have patronized the office for over eight years)—the best of work at very fair and uniform rates.

We are constantly adding new presses, type, and other material to our stock, making our facilities good for doing a wide range of work for merchants, mechanics, inventors, manufacturers, and tradesmen of all classes.

To Engraving and Electrotyping, for illustrating books and circulars, we pay particular attention, guaranteeing our customers satisfaction in this line difficult to be secured elsewhere.

Printing in colors, bronze, plain and ornamental style promptly done. Especial care given to working engravings

SPAULDING & BARTO,

"Mining and Scientific Press" Job Printing Office,

No. 414 CLAY STREET, S F

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

The Mountain.—*Chronicle*, June 5th: This week we found the boys pnshing ahead toward the ledge. The rock continues hard, but with the aid of Giant powder good progress is heing made. The tunnel is now in 1,610 feet.

Tarshish.—*Miner*, 5th: The managing director has since his arrival heen quietly making drafts upon various parts of the mine for ores and having these tested. From numerous assays he finds the ledge matter ranging all the way from $14 to over $500 per ton in gold and silver. The examination as to quantity has been fully as satisfactory; these ores heing found, to the north and sonth, 150 to 180 feet.

AMADOR COUNTY.

New Quartz Mill.—*Ledger*, June 12th: The mill of the Amador Mining Co. at Sutter Creek is fast nearing completion. It is adjoining the old one, and of the same capacity—forty stamps. Two new boilers, weighing 8,000 pounds each, will supply the steam.

Summit Mine.—The owners have commenced erecting hoisting works on their north shaft. The prospects of their mine are daily increasing.

CALAVERAS COUNTY.

Enormous Yield.—*Chronicle*, June 12th: Eighteen tons of qnartz from the mine owned hy Peter Gass, at Mosqnito Gulch, yielded $1,165. We are informed that the lead shows a width of three feet, and has every appearance of being a true vein. The lead is within a few rods of the main road to West Point, near the old Vance mill.

Lower Rich Gulch.—The 16-stamp battery on the Palomo is crushing 35 tons of rock per day. Since the completion of the steam hoisting works no difficulty is experienced in ohtaining rock as fast as it can be crushed. Alexander & Co. have ore steadily increasing in richness. The chunks of amalgam taken from the battery resemble a "half bushel" in size more than anything else.

West Point.—The quartz mining interests are rapidly improving. Labor is being resnmed on most of the claims, and bnsiness of every character is looking up.

Railroad Flat.—Forty tons of ore from Sanderson, Gay & Co's mine, crnshed at Smart's mill, netted $2,000. The rock was unassorted. The Company are still crushing ore of the same quality. The lead has been developed to a depth sufficient to demonstrate its permanency heyond a doubt.

INYO COUNTY.

Cerro Gordo.—Los Angeles *Star*, May 29th: Thirty-five pounds of silver bullion recently brought from tho mines of Wolfskill and Cervantes, at Cerro Gordo, near Owen's River, was smelted from the ore at the works on the ground.

EL DORADO COUNTY.

Mendon.—Correspondence of Placerville *Herald*, June 2d: The Crystal Co. take out from 60 to 80 ounces of gold every week with a small 8-stamp mill. Their ledge increases in width and improves in richuess as they go down. Work is being prosecuted ou the Stillwagon mine. It has already made its owners rich with a little 5-stamp mill. The Independence Co. are sinking a shaft. They are now down about 80 feet, and ahout 25 feet below the bed of the river. The ledge has gradually increased from 10 inches to 2½ feet. The rock contains a very large percentage of sulphurets, and pays in free gold from $25 to $40 per ton. The sulphurets assay from $95 to $400 per ton. They save all their tailings, and intend putting up machinery for working sulphurets and tailings. They also inteud to erect permancnt hoisting works. The Quail Co. have taken out 33 tons of rock, which they had crushed, aud obtained 33 ounces of clean gold. Mr. Douglas is putting in a cnt from 18 to 30 feet deep and 4,000 feet in length, to open up several hydranlic claims which have paid immeusely but can not he worked further for want of fall.

NEVADA COUNTY.

Wisconsin.—Grass Valley *Union*, June 8th: Down 360 ft. on the iacline, with good supply of ore.

Allison Ranch.—Pumping is still the order of the day, together with crushing the old dump pile. The dump is payiag well. The company are puttiug in a new separator, invented by Major Hough.

Perrin's miue is paying steadily....The Higgins ledge has come in good agaiu.... The Hartery yields a constant profit.

Empire Shut Down.—Same of 13th: Capt. Lee has attempted to keep the mine rnnning. At times he has succeeded in obtaining a tolerahle force of men, and on Friday had a greater numher engaged than at any time since the strike commenced; but owing to persnasion, intimidation and threats, on the part of members of the Miners' League, his force has been constantly changing, and so seriously has he heon inconvenienced that yesterday he discharged all his workmen, and suspended operations. He informs us that the mine will remain closed from two to three months.

Wm. Penn.—The shaft is down 125 ft., and a drift is heing run on the ledge 50 ft., for prospecting purposes. We saw some rock yesterday from the drift, showing unmistakahly in free gold. We are informed that the company intend soon to sink the shaft deeper.

Co-operative Mining.—We learn that some of the miners engaged in the strike, have it in contemplation, to lease several idle and partially developed mines, and work them on something like the coöperative system. It strikes us that a movement of the kind will be attended with good results.

Kentucky.—*National*, June 7th: This mine is 900 ft. northeast of the Eureka, and promises to be an excellent one. The ledge in the shaft is three ft. wide, and the rock has crushed at the rate of $24 per ton. The sinking only costs $8.50 per foot, and for every foot 1½ tons of rock is taken out. The owners have incorporated.

Quartz Mill Burned.—Nevada *Gazette*, June 14th: The Jim Crack quartz mill, in Eureka district, was destroyed by firc on Friday. It was a 10-stamp mill, erected last season, and we understand that everything connected with the structure was destroyed. It was owned hy A. A. Veatch, who is at the mine, Alphens Bull, of San Francisco, and others.

Mining at Blue Tent.—The Cressy hydraulic claims are paying well, although the company are working off a bench of gravel. They cleaned up $2,100 after a run of 17 days, 150 ft. above the bedrock.

Good Rock.—Lindsay & Co., near the mouth of Cañon Creek, above Washington, are crushing rock at their 4-stamp mill which is yielding on the average $40 a ton. Their ledge is well defined and all of the rock pays.

Pittsburg Mine.—*Transcript*, June 12th: The 10-stamp mill now runs only in the day time, but in July it will run day and night, crushing 20 tons of rock every 24 hours. There are two 60-horse power engines. The incline from the mill is 530 ft. deep. At the hoisting works are two engines, one of 40-horse power and another of 60. A railway extends to the mill, over which cars are run, and the rock dumped at the foot of the battery. This incline is down 580 ft. The ledge looks better than ever before.

Mining on Deer Creek.—Tho Chinese Co. on Deer Creek, have erected extensive flumes and sluices, and are employing 15 or 20 men. They are mining out the bed of the creek, and we are informed they find it profitable.

Loyal Co.—Same of 13th: This company propose to run a tunnel to tap a gravel channel in the west side of Cement Hill ridge, and in that distance they expect to reach a point 30 ft. helow the bedrock of the channel, giviug sufficient fall to work it to advantage.

PLUMAS COUNTY.

Black Hawk.—Quincy *National*, June 4th: Turner, Rice & Co. have finished piping for the season, and will commence cleaning up the coming week.

Indian Valley.—Correspondence of same: The Green Mountain and Caledonia will both start up in a few days. The Crescent is now running on good rock. Judkins & Kellogg are taking out $2,500 per week; Indian Valley, $1,500, and the Genesee Copper Furnace is turning out about two tons of copper per week. The placer miuers on Grizzly Creek are making about $6 per day to the hand; on Light's Cañon, about $4.

SAN BERNARDINO COUNTY.

Green Lode.—*Guardian*, June 17th: We hear that operations are beiug commenced on this mine, 40 miles from San Bernardino and 8 from Holcomb Valley. G. H. Pond, a White Pine miner, lately from that section, will sink a 300-foot shaft from a tunnel level of 200 fect.

SIERRA COUNTY.

Iowa Mining Co.—Downieville *Messenger*, June 12th. This Co., near Mount Pleasant Ranch, has ahout 500 feet of tunnel to run to tap the shaft. The tnnnel will, in all probability, be completed and the work of taking ont gravel be commeuced this fall.

Still Running.—The Montpelier Mill is still running upon Ned Leonard's rock.

Dried Up.—Water has about dried up in the hydraulic diggings of this county.

SISKIYOU COUNTY.

Quartz Mill at Oro Fino.—Yreka *Union*, June 12th: H. T. Sheppard has made a contract with Trimhle & Co. to erect a quartz mill. Trimhle & Co. already have an arastra, propelled by water power, and the wheel now used for running the arastra will be used for running the mill. They are satisfied that they have a good ledge. There are several other ledges in the vicinity which are known to be rich. A mill for custom work is a great desideratum in that vicinity. The mill to be constructed will have sufficient capacity to work more rock than the owners will be able to supply from their own ledge. It will therefore he available for custom work a portion of the time.

Etna.—We understand that this company are obtaining exceedingly flattering prospects in their claim, having got as high as $22 from one pan of dirt one day this week.

Shasta River Ditch.—This ditch was severely damaged hy the storm last Saturday. Some two or three miles of it were filled with gravel aud dirt. The work of cleaning it out and repairing damages is heing pushed forward with vigor.

TRINITY COUNTY.

Indian Creek.—*Journal*, June 12th: An enterprising miner discovered some rich ground on the hill back of the town, but some distance above the nearest ditch. As the only mode of working his claim, he has constructed a chute to the ditch helow, and has been working in this manner for some time with profit. He realizes $8 a day as the reward of his ingenuity.

ARIZONA.

Sterling.—Prescott *Miner*, May 29th: Work is being pushed. The south drift is in 50 ft., and the north 100 ft. Good quartz is heing taken out of the latter. Work on the mill is progressing slowly. It is hoped that the mill will be in rnnning order in four or five weeks.

We were shown this week, several pieces of rock from a lode recently discovered near the head of Lynx Creek, named the Stewart. The ore contained gold and silver in paying quantities. Three thousand eet have been located on the ledge, which, n places, is 30 ft. thick.

Upper Lynx Creek.—Bowers & Wells have their arrangements all made for flumiug and working, and will start up soon.

Granite Creek.—A party of miners have put in a flume helow the old site of the Quartz Mountain Sawmill. Their intention is to work the bed of the creek.

Wickenburg.—John Reese informs us that the mill of Reese & Krause was ready to run when he left.

BRITISH COLUMBIA.

Kootenai.—Dalles *Mountaineer*, June 4th: Messrs. Milby and Hicks, from the new diggings in the Kootenai country, report everything as flourishing. At present there are about 500 miuers, aud the mines are paying well. Mr. Milby showed us specimens, one of which weighed within a fraction of $100. The gold is very fine and assays over $18 per onnce. It is expected that there will he a big rush from Montana.

COLORADO.

Jamestown.—Boulder *Pioneer*, June 2d: Mr. Stewart yesterday showed us specimens from the Grey Eagle lode. One was a piece of chloride resembling first class ore from the Comstock. Another "chlorobromide," carried a heavy per cent. of gold and silver. This specimen had been roasted and globules of the metals spangled its surface. The shaft is 60 ft. deep and shows a vein, carrying 10 inches of the chloride ore, several tons of which are now on the dump.

Empire.—Georgetown *Miner*, June 3d: From Empire we learn that miuing is being carried on with activity, with the probability of a large gold product.

First invoice of miniug machinery for the Washiugton Association, arrived last week.

Bullion.—Shipment for the month of May: Stewart's Reduction Works, $9,360 coin value; Brown Company, 415 lbs., coin value, $6,474. Total, $15,834 coin value.

Huepeden & Co., will not make any report till the first of July. Our shipment for May, iucluding the amount by Huepedeu & Co., largely exceeds the shipment for April.

Jones Lode.—Central City *Register*, June 3d; This lode seems to be the great attraction at present. Several parties are taking out surface rock said to be very rich iu gold. One lot of several cords from Capt. Phillips' claim yielded 26½ ozs. per cord.

Black Hawk.—This mine at the present shows a body of ore, fully enough to keep the company's works running for six months to come. The receipts largely exceed the expenditures, and are constantly increasing.

Nevada Gulch Mills.—There are now seven stamp mills in operation, most of them on custom ore, and three or four others will be started within a few days. Jones & Hawley's building is nearly completed, the batteries up, the 15 stamps in place, and the proprietors confident that they will have the whole in operation inside of two weeks. Whitcomb's 12-stamper is steadily at work on custom rock. It is reducing nine cords per week with satisfactory results.....The old Beverly 8-stamp mill is undergoing repairs. It is leased by Mr. Handy, who will start it up in a day or two on custom rock. It crushes about six cords per week....The Kounce & Beverly 12-stamper has heen thoroughly overhauled and the batteries rehuilt in a substantial manner. It is crushing seven to eight cords per week....The New Bedford has heen running for some time past, on ore from the Forks lode, which yielded from five to eight ounces per cord. The Old Stoner 12-stamp mill, under lease by Mr. Chatfield, is crushing custom rock, six to seven cords per week, at an average yield of four ounces....B. C. Waterman's 12-stamp mill is running on ore from the Flack lode, reducing six to seven cords per week. The yield is from five to six ounces per cord....The Gilpin 18-stamper is being run by Mr. Conlee, on ore from the company's mine on the Burroughs' lode, of which he also has a lease.

The lowest yield that we have heard of recently, was three ozs. per cord, and that from only one small lot, while several lots have yielded 15 ozs. and npwards, and one lot from the Jones lode gave 26¼ ozs. In addition, it must be borne in mind that from the deep mines only the second class ores go to the stamp mills, all the rest being sold to the smelters, at prices from $35 to $100 per ton, and in some cases as much as $300 per ton. Many of the mines are raising a large amount of that class of ore, some as high as 60 tons per week.

Gold Hill District.—Erie Bottleson has got his stamp mill on Left Hand in operation. It is a 10-stamper, reducing surface rock from the Williams lode, on Gold Hill. The results have been satisfactory. The Hoosier mill is now putting in new crushing machinery.

An assay of ore from the Williams lode, yesterday, gave 25 ozs. gold, and 60 ozs. silver, per ton—$594.75 coin valne.

Quartz Hill.—Mining is lively. Parties have leased the Ayers property and are taking out dirt, which yields fairly. James O'Brien and James Taylor are working on the Tigress lode. Their ore prospects largely. Parties are preparing to sluice ahove the Leavenworth mill. Several abandoned claims are now being worked. Thos. Daily and James Livingstone have commenced working the Calhouu, aud are taking out nice looking ore. Geo. Mitchell is working the Alps and Mackie mines, and crushing tho ore in the Leavenworth 12-stamp mill. He has not received a dollar from the stockholders during the past three years, and has heen gradually reducing the old debt. The mines are now in good condition, veins well developed, and the machinery good.

IDAHO.

Minear Mill.—Silver City *Tidal Wave*, June 8th: R. H. Leonard has taken the mill and premises for a year, and will start up to-day or to-morrow on a small lot of ore from the first north extension of the Morning Star.

Baxter.—We witnessed the weighing of the first lot of bullion from the Baxter mine. The amount crushed was 126 tons; weight of crude bullion, 1,987 ounces, troy, value not known. This miue is uow down 190 feet with only one level. The ore crushed was first and second class thrown together, and was the product of the shaft and tunnel, the 190-foot stopes still left standing. Men are sinkiug in the main shaft again and intend to put it down another hundred fect and start another level. When this is done there will be 290 feet of stoping ground open.

Oro Fino Extension.—The second extension south of the Oro Fino, sometimes called the Peck & Porter claim, which has been in litigation, is relieved from further embarassmeut by compromise.

NEVADA.

HUMBOLDT.

Battle Mountain.—*Register*, May 24th: We have been informed that a new ledge, called the Mary Ann, hids fair to rival the celebrated Little Giant. The averago of several tests has been $250 per ton.

A Chicago Company is negotiating for the purchase of a mine in Gold Run District, in the vicinity of Golconda.

Placer mining is carried on in Star Creek, above the Sheba mill. The largest specimen that has yet been obtained is worth $6. Several pieces worth from $1 to $2 have been found.

Reports from Winnemucca Mountain are encouraging. In the Pride of the Mountain, at a depth of 225 feet, the vein was found three feet in thickness of solid ore, that will net $300 per ton.

REESE RIVER.

The *Reveille* of the 5th comforts the people of Austin by explaining the causes of its depression, predicting the return of the White Pinors at least, and advising everybody to take things easy. For its part, it intends to keep on cherishing the hope that "we may be happy yet."

GOOD NEWS.—Same of 12th: The Lane and the Fuller Co. have leased the mill of the Mettacom Co. The Buel North Star mine of the first named company is yielding a large quantity of high-grade ore, which, together with what custom ore they are sure to have, will keep the mill well supplied.

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

RUSHING BUSINESS.—Gold Hill *News*, June 7th: The Yellow Jacket is employing about 400 men, owing to the air in the mine being so hot as to compel the resort to eight-hour shifts; the drift communications with the Kentuck and Crown Point being closed on account of the fire, thereby shutting off the circulation formerly existing. The pay-roll of the Yellow Jacket amounted to $20,000 for the last month.

SIERRA NEVADA.—Same of 9th: This mine is now a decided success and a paying institution. Last month the yield was over $23,000. This month's will probably amount to $30,000. The ore is mined and milled with less expense than that from any other mine on the Comstock.

OVERMAN.—Repairs to the shaft have been completed, and work commenced from the 226-foot station up. It will require several days to put the shaft in order, during which time no ore can be taken out.

CROWN POINT.—Same of 12th: During the year ending April 30th, 25,833 tons of ore were extracted. Supt. Jones' report also says: The ore in sight is estimated at 2,500 tons; in addition there is a vast amount of low-grade ore remaining in the upper levels of the old west workings, which can be profitably worked upon the completion of the Virginia and Truckee Railroad. Explorations on the 1,000 and 1,100-feet levels were checked by the fire at the beginning of April, and have not yet been resumed.

IMPERIAL.—Nothing more encouraging. The old shaft yielded $43,000 in May.

Kentuck yielded enough to keep the Sunderland mill running....Overman shipped $17,000 in May....Gould & Curry repairing, and yielding 80 tons of ore daily....Ophir's drift now in 350 feet....Savage yielded $155,000 in May....Sierra Nevada is milling 45 tons daily....Hale & Norcross yields 150 tons per day....Chollar-Potosi about 175. Average $50 per ton.

WHITE PINE.

ITEMS OF MINING PROGRESS.—*News*, June 5th: We hear of two mining sales having been effected with eastern capitalists during the last few days. One for $25,000, and the other, conditionally, for $50,000. ....7th: Operations on the Little Bilk mine are to be resumed to-day. Already some very fine ore has been raised from the bottom of the shaft, which is one of the deepest in that locality.....The new strike in the Keystone shaft of the Eberhardt, shows rich chlorides, and will work about $200 to the ton.....8th: About the Hidden Treasure everything is lively. A large amount of ore is sent to the Centenary mill daily. Two large packs are not able to carry away the ore as fast as it is taken out. ....10th: It is now a well established fact that a great north and south fissure vein of wonderful richness runs through Treasure Hill, just back of Main street, and that the rich floors of ore on the three flats are overflows from this channel. The north end of the bill, and west from the Hidden Treasure mine, is now being worked with good prospects.....We were yesterday shown some ore from a claim recently discovered on the Base Range. It was almost free from base metals, and estimated to be worth over $2,000 per ton.....11th: Borcalis shaft is now down 12 feet.....12th: The Orient, between the Eberhardt and Mazeppa, shows rich chloride ore on the surface, and at the depth of 12 feet good milling rock..... Eight mills are in full blast and the streets are filled with teams hauling quartz from morning till night. The White Pine Water Co. has all of its machinery on the ground, and will have the water into Hamilton by the 15th of July, and into Treasure City by the 15th of August.

The *Inland Empire* of the 12th says: "The places of the hundreds who have left disgusted during the past month have to a great degree been taken by men of means and energy. Our mines are being developed, mills have been built, and business is taking a firm root. Our town will within twelve months from its birth be the largest in size, population and wealth in the State."

MILLS.—*News*, June 5th: The Manhattan mill started up on Tuesday, and is running like clock-work. It is the largest mill in White Pine County, having 24 stamps, and is the property of the Consolidated Chloride Flat Co....11th: The Centenary mill, at Newark, 22 miles from Treasure City, has a splendid 20-inch engine, a battery of 20 stamps, with 10 largest Greeley pans, 5 8-foot settlers, 2 clean-up pans, one 10-foot agitator, and other apparatus in full supply and fine condition. Crushes 20 tons a day, dry; and will be fitted with roasting furnaces. It is furnished with a melting furnace and assaying apparatus, and the product of the mill is turned out in silver bars, marked and guaranteed....*Empire*, 12th: The White Pine mill now has 10 stamps, and 10 more will be added. The work will be completed within 20 days....Correspondence of San Francisco *Herald*: The new California mill in Eberhardt Cañon is to have 30 stamps, 4 retorts, 2 melting furnaces, 16 pans, 8 settlers, 4 agitators. The ore house will have a capacity for 350 tons of rock; the breaker is to be capable of breaking 100 tons of ore daily; the kiln capable of drying 50 tons daily; the batteries to crush 50 tons per diem, and filled with automatic feeders. The mill is to be put up especially for the mines owned by the Messrs. Stanford, chief of which are the California and the Aurora South, the Jim Stewart, Evening Star, Mahogany, and Poorman; and the works, which will cover an area of 10,800 feet, are to be known as the Stanford mill. The iron work is from the Union Foundry, after designs by Mr. W. H. Patton, the engineer of the company.

BULLION.—*News*, 5th: Shipped on the 3d, by Wells, Fargo & Co., from Hamilton and the Newark mill, 17 bars of bullion, valued at $23,364.05.....7th: For the week ending the 5th, the different express and banking institutions shipped from White Pine bullion to the amount of $78,575.01. *Empire*, 12th: Wells, Fargo & Co. shipped overland, yesterday, four bars of bullion weighing 408 pounds, and valued at $7,558.46.....*News*, 11th: The estimated shipment of bullion for June from White Pine, is at least $500,000, and for September $800,000 to $1,000,000. The White Pinors say that they can now work out their own salvation, and will let the bullion do the talking for the district hereafter.

OUTSIDE DISTRICTS.—A 10-stamp mill is to be put up in Reveille district....A 20-stamper is nearly completed in Egan Cañon by the Steptoe Co....Reports from Patterson are highly favorable. Negotiations pending for several mills.....Clover Valley district is to have a 10-stamp mill..... New and promising district discovered 18 miles west of Meadow Valley... Sam. Brannan of San Francisco has bought,—says the *Empire*,—a part interest in a certain toll-road, ranch and mining property in Robinson district. The amount paid was $17,000. We learn that he will put on a stage line between Robinson and this city, and will immediately put up a 20-stamp mill.....The San Francisco Co., in San Francisco district, have commenced two shafts. They expect to strike rich rock inside of 30 feet, under the lime rock capping.

NEW MEXICO.

MORENO.—Santa Fe *Gazette*, May 29th: Maxwell's continues to be one of the best paying quartz leads in the country. The mill is constantly at work. Last week a clean up of $15,000 was made as the result of two days' run with 15 stamps. The vein holds out and the quartz gives no evidence of diminishing in value. We are told it is the intention to increase the number of stamps to 50.

Other leads have been discovered in the vicinity which promise to be equally valuable. Gov. Mitchell informs us that steps have been taken to procure a mill from Chicago.

Col. Anderson of the New Mexico Mining Co., informs us that the new machinery will be ready for operation in July. This will give 40 stamps with all the latest improvements. Seventy-five thousand dollars worth of ore has been taken out during the suspension of work.

Mr. Guttman, recently from the mines of the Arroyo Hondo Co., informs us that six wagon loads of the machinery for the quartz mill had arrived.

At latest dates the Moreño ditch was completed all but one mile, and would be finished by the middle of June.

It is said that rich placer diggings have been discovered in the neighborhood of Abiquiu, Rio Arriba County. The distance from the Plaza is reported to be about six miles.

WASHINGTON.

PERRY CREEK MINES.—The Walla Walla *Union* of the 29th ult. says: Mr. McGraugh arrived Tuesday, seven days from Perry Creek. The news is cheering. The day previous to his departure from the camp, a small party who had been prospecting 12 miles from the town, reported so favorably that over 250 claims were taken up in less than 48 hours. The creek is running high at present. Mr. McG. thinks it will be three or four weeks before miners are enabled to work their claims. There is a new camp some eighteen miles from the town on the Mo-Yeah, a stream which runs nearly parallel with Perry Creek, on which had been obtained equally good prospects.

OREGON.

ROCK CREEK.—Dalles *Mountaineer*, June 4th: From Mr. Thornhury, of Camp Watson, we received a small package of gold dust taken from the mines lately discovered on Rock Creek, east of Camp Watson. These mines are said to be extensive and rich.

MYRTLE CREEK.—*Oregonian*, June 6th: More than one hundred men are working and prospecting the gold mines on Myrtle Creek, in Douglas County. Considerable gold is obtained, and there is a good deal of excitement.

WYOMING.

SILAS WRIGHT.—*Sweetwater Mines*, June 2d: This ledge, owned by Dr. Leonard and L. U. Colbath is proving one of the best in the district. At a depth of 20 feet they have an 8-foot vein and free gold. It is easily worked, and two men average over four tons per day. Eddy's mill commenced crushing Silas Wright rock on Monday.

WORLD BEATER.—This ledge is looking splendidly. Men are constantly engaged in taking out quartz.

ATLANTIC CITY.—Some 75 men on Rock Creek are making big wages. All the claims on Atlantic Gulch are being opened, and it is the intention to commence sluicing in two or three days.

Pease & Co. are running their arastra day and night on rock from the Mary Ellen, and are crushing about one ton and a half every twenty-four hours. The Mary Ellen is classed with the rich ledges, and expect a handsome yield.

Silver Placers.

Silver is never found like gold in grains among the sand, to be washed out by hand, but in ores of quartz, from which it must be reduced by stamping or grinding, and sometimes by smelting.—*A. D. Richardson on mining.*

Commenting on the above, the Georgetown (Colorado) *Miner* says: "We beg leave to differ with Mr. Richardson. He does not know everything about silver mining. He should come to Colorado and learn from old prospectors and miners before he writes another article on mining. We take great pleasure in publishing the following extract from a letter written to us last January by William P. Pollock, clerk and recorder of Summit County: "It was no rare occurrence for the gulch and bar miners of Miners' district on Blue river, in 1860 and 1861, to find among their "clean ups" nuggets of almost pure silver.

"In the winter of 1861, J. J. Cobb, Esq., of Parkville, Georgia Gulch, traded an ounce of gold dust for an ounce silver nugget, which was taken out of Blue river, above Breckenridge about two miles, and which assayed at the U. S. mint at Philadelphia, 909-1,000ths fine, and reported by the assayer of the mint to be the purest specimens ever received at that establishment." The knowledge in regard to finding native silver in the clean ups in the Blue river diggings, is not confined to a few men. Native silver is also found in the clean ups near Tarryall and Park County.

LUTE FOR BENZINE BOTTLES.—*Dingler's Journal* recommends as a lute for covering the corks of vessels containing benzine or any of the light hydrocarbons or essential oils, a paste made of finely-ground litharge and concentrated glycerine. The mixture is spread over the corks or bungs, and soon hardens. It is insoluble in the said liquids, is not acted upon by them, and is quite inexpensive, as the commonest kind of glycerine can be used.

Railroad Progress.

NORTHERN PACIFIC.—The telegraph has informed us the past week that Jay Cooke has nearly completed arrangements for selling the bonds of the Northern Pacific Railroad, and contracting for its immediate construction. Surveying parties will go to work immediately. The early construction of this road must be considered certain—there may be a delay of a few years, but *only* for a few years. Judging from the character of the parties who now have it in hand, there can be no very long delay.

SOUTHERN PACIFIC.—Several parties who were originally connected with the Northern Pacific, are now devoting their energies to the Southern Pacific. A European loan of ten millions for the commencement of operations is confidently expected at an early day. The routes of both these roads have near both termini rich districts of country which are being rapidly filled up and developed. Both will be needed before it will be possible to complete them, even with a plenty of money in the hands of their projectors.

THE CENTRAL PACIFIC Co. are pushing on their improvements and branches. The California Pacific are hardly less active. The Virginia and Truckee are straining every nerve to complete the road by October. All these enterprises will be immediately profitable, and it would have been a most unfortunate occurrence for California had they been delayed.

THE VACA VALLEY ROAD.—The last rail on this road was laid on Tuesday last, and it is now open for business.

STOCKTON.—Two more meetings have been held in Stockton, to devise measures and means for the construction of the proposed railroad southwards from that city. At the second meeting a report of progress was read which appears to have given much satisfaction.

THE SAUCELITO RAILROAD.—The report that the work had been suspended on the railroad terminating at Saucelito, and that the enterprise had been given up, is authoritatively denied by the Directors. Work was suspended on a portion of the road which was being built by a person employed by the company, without authority. About fifteen miles of road has been graded and is ready for the iron, and the President of the road is on the way to the East to purchase iron. It is asserted that the road will be built at an early day.

RAILROAD FROM MARYSVILLE TO COLUSA. Marysville has already become directly connected with the California Central, and will soon have a tide-water connection at Vallejo. She is also vigorously pushing on the rail northward for a connection with Oregon. Not content with all these advantages, she has already set the ball in motion for still another connection—with Colusa, an agricultural town, about thirty miles west of the Sacramento. The *Appeal*, in urging the construction of this road, says: "The people of Colusa want the most direct communication with the great thoroughfare of travel and commerce East as well as West, and this desirable object can be obtained by building a railroad to this city, and here connecting with the California and Oregon line as well as the Vallejo. There is a great market for grain, farmers' produce and fruit over the mountains, and if a railroad is built from Colusa to Marysville, direct daily communication can be had with the Central Pacific, going over the mountains, and the Vallejo Railroad, running directly to San Francisco. Some public action should be had immediately to this end. The counties of Sutter, Colusa and Yuba should contribute liberally toward this enterprise. Capitalists and railroad men should examine this route. It would prove a very profitable railroad investment." There is no better field for a short railroad in California than the one here suggested.

SUSCOL TO HEALDSBURG.—The railroad from Suscol to Healdsburg, by way of Sonoma and Santa Rosa, has been mortgaged to a couple of gentlemen of San Francisco representing a large amount of capital, and the amount of stamps on the mortgage—$3,500—seem to indicate an intention to do some work.

MINING AND SCIENTIFIC PRESS.

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Mr. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, June 19, 1869.

Trial of Giant Powder in the Gravel Deposits.

At Sebastopol, on the ancient channel of the Middle Yuba, there was tried week before last, a charge of Giant powder in gravel. A tunnel of thirty-five feet was run into the deposit, then a cross drift or chamber was opened of 20 feet in length by 2x3½ feet. One long thin cartridge was made of the Giant powder lengthwise of the latter space; the mouth of the entrance tunnel was then dammed up, in such a manner as to flood the passages, and water was let in by means of the hose, serving in the place of the usual closing and tamping; communication with the Giant powder having been secured by the placing of water fuse. The quantity of Giant powder used was 175 pounds. The fuse being ignited, it burned successfully to the percussion cartridge and the Giant powder was exploded, but without throwing down or disintegrating the bank. It appeared that the Giant powder operated very suddenly; owing to that or some other cause the effect of the explosion was mainly upon the water, which was blown out of the hole and spattered over the claim with tremendnous force. Whether the results in gravel could be bettered by a different method of tamping, remains to be developed by further experiment. A few seams were of course opened, but not to the degree of assisting in the operations of the hose, for the ground, says our informant, "wouldn't pipe." Forty kegs of common blasting powder were then put into the chamber, inclosed by tamping, and exploded with satisfactory results.

WHITE PINE POST OFFICES.—We are informed that subscribers for newspapers at the principal towns in White Pine, Nevada, are complaining loudly of the post office arrangements there. Papers are not delivered regularly—in fact, are not delivered at all; but thrown into superannuated dry goods boxes or placed in a position calculated to tempt the "boys" to take their choice. This is getting to be a serious matter between ourselves and subscribers, and we respectfully call on our White Pine exchanges to investigate and inform us if "such conducts as those" are likely to continue indefinitely.

THE San José *Mercury*, one of our best interior exchanges, and among the oldest journals in the State, has entered upon its 17th volume. May it live to see a hundred years and more. The proprietors announce the early establishment of a daily.

The New Rivot Steam Roasting Process.

A visit to the "French mill," in the pines above Nevada City, made by us on Friday of last week, for the purpose of satisfying ourself concerning the results of the new Rivot roasting process by the use of decomposed water, disclosed a fine establishment, admirably gotten up with all the requisites for intelligent working, provided only that the great cylinder shall do its duty. The key to the building, unexpectedly to us, was found in the hands of a sheriff's deputy, (who was soundly sleeping, the weather being warm), and all in the neighborhood was rurally quiet. Birds sang around the doors of a comfortable *hutt-house*, where were visible untold dozens of inverted claret bottles, gloaming in their own green blaze of sunshine; while esthetics and embodied suavity were at home in cool shade within. French metallurgy is never less than a success, but the processes incidental thereto are often unconscionably stubborn. From behind a pouderous volume (Racine or Lavoisier?) there met us a classic, middle-aged, amiable face, in lines of gentle repose—the last of the spirits of the French mill, an humble worker—the rest of the ingenious number having all returned to France, and gone we know not whither, even before the famous cylinder begins to rust; not to consult Rivot this time, for he is dead. When Poetry takes a diverging path, leaving French metallurgy in the lurch, what becomes of it and of all the assistant metallurgists?

It seems, withal, that the new Rivot roasting process with steam was not a failure by any means when undertaken in a small way. Chemically, Rivot's idea of roasting with steam alone, under perfect exclusion of air, the ordinary agent of roasting, and, in point of fact, practicable. Instead of using oxygen of the air to convert FeS^2 into Fe^2O^1 and SO^2, the Rivot process vaporizes and decomposes water into its elements by contact with the glowing ore; then by continued exposure and mixture of the latter with the inclosed gases, H and O, in the ore-tossing cylinder, effects an interchanging of elements thus: $FeS^2+HO=Fe\cdot O^1+HS$; the latter gas being easily discernible by its remiuding of things somewhat worse than infernal.

This undertaking, under the immediate auspices of Rivot, who was to have visited this country for the purpose of devoting his personal attention to the matter, was an attempt to make out of a laboratory process a working process, in order to save fuel, the chief cost of roasting. It would be premature to decide against it conclusively at present, however, from this standstill, since greater experience or further trial may yet succeed. Prof. Rivot's death certainly is a loss to California.

There is little to describe in the French mill besides its great cast iron cylinder; there being in place two fine steam engines, five or six large amalgamating pans, a number of settlers, and, in a side department, the entire apparatus, duplicated, on a small scale, with assaying appointments. The cylinder is set in a brick furnace, weighs 21,600 pounds, measures fourteen feet in length and five feet in diameter, resting on wheels, on which it is rolled around by the agency of a tangent screw on top. It is charged with a ton of ore. The flames of a wood fire pass over the cylinder, heating it to a low red heat, and down on the other side, where they pass under the steam generator. The gases from the cylinder are led out from the end opposite to that where steam is first brought in contact with the ore.

That the trials of the past month have not been successful in the estimation of those who were in charge or interested, appears evident; we have not been able to learn the precise cause. Probably the roasting was found to require too much time, and the fuel, after all, was too costly, as compared with ordinary roasting. Years ago Mr. John Scott roasted pyrites in this manner, requiring ten hours to desulphurize and oxydize 500 pounds. A statement of the times required to roast different charges, and the results in general, from some of the late metallurgists of the French mill, would surely be worthy of record, for comparison with the ordinary air roasting. We surmise, further, that the roasting was done in part only to the stage of sulphate, since that is all that a low red heat would effect; while a light red, or white heat, such as is requisite for perfect amalgamation or chlorination, would have destroyed the cylinder.

What was known several years ago as the "Rivot process," was an attempt to accomplish similar results chemically with a different tool,—the reverberatory furnace,—into which steam was injected from above; but it was not successful, owing, as is stated, to the impossibility of excluding air in the stirring that was found necessary. Another attempt of the kind, with still another tool,—the kiln furnace,—is the Hagan process, of which we hear occasionally, but nothing of late.

Giant Powder and Sickness.

The gases from exploded Giant powder appear to operate very differently upon different individuals. Many experience headaches at first, but afterwards get accustomed to it. Others do not experience any ill effects from it whatever. We learn, however, from what appears to us to be an unprejudiced source, that some good and healthy men have been debarred from laboring in the mines where it is employed by reason of its extremely sickening influence upon them; causing headaches, nausea, and, on persisting in trying to get used to it, a wasting of the flesh and a ghastly complexion. At Grass Valley some miners thus affected quit work very involuntarily some time before the strikers were under way.

Recognizing the difficulty of introducing any new and meritorious invention, it is well for the mining public that the giant powder has succeeded in obtaining so thorough a trial; and we apprehend that its advantages will not be lost in the end by reason of its injuriousness to health. Better ventilation, or air-blasts, as at Smartsville, would render it tolerable, perhaps even to those who are most affected. From the laboring miner's stand-point it must be conceded that the question involving loss or change of occupation and home at once, is not a trifling one. Fair play, and moderate pressure, will work best on all sides just now.

Cope Mining District.

Col. Drew has left with us some rich specimens of antimonial silver ore from the new district discovered by him and his prospecting party, 65 miles northeast of Elko, situated 5,750 feet above the sea, and in sight of the region of the Poorman, War Eagle and Oro Fino mines, of Idaho. This new district has already drawn towards it all of Elko's loose saddles, horses, including even stages it is said, by that loadstone attraction which mineralized silver has been observed to exert upon such articles, together with quite a few men who could spare the time and who were willing to go and discover a fortune where such things do grow. The minerals are pyrargyrite, or dark red antimonial silver, chiefly; and stephanite or rhombic brittle silver, in quartz; with flakes of chrysocolla, or "silicious malachite."

The Argenta claim, one of the four locations made, is but a quarter of a mile from the North Fork of the Owyhee river. This ledge is the widest—being six feet in width; but all the ledges are remarkably clear and well defined.

Single and Double-Handed Drilling.

It is alleged, on good grounds, that the principal reason why many of the Cornish miners at Grass Valley object to the employment of the Giant powder is because they do not wish to work with the single-handed drill. The statement, however, without a word of explanation for such aversion, will, to many, look trivial. What is the difference between single and double-handed drilling?

Suppose that the ordinary powder be used. It is true, in the first place, that with the double-handed drill (a holder and two strikers), there is apt to be more talking, and smoking, and idleness, while the work being done is easier. When the same man both holds and strikes, the exertion intrinsically necessary is considerably increased.

The use of the two systems in Cornwall is geographically bounded. A Cornishman will inquire in regard to a new-comer underground: "Is he an Eastern man, or a Western man?" If Eastern, the man knows only the use of the double-handed drill, and will shake his head,—with all the wisdom of a practical miner,—at the entire single-handed system and its aiders and abettors. If he be a Western man, it may be concluded that he is both left handed and right handed in the twinkling of an eye; that he will upon occasion insinuate himself into a hole or crack only a few inches larger than his body, and pointing his drill ahead of him, will swing his hammer rapidly just underneath his beard, right handed or left handed by turns, with a genuine miner's skill. St. Just is the representative of the single-handed system, and the St. Just tin mines are, Mr. Phillips informs us, the cheapest worked mines in the world.

There is a custom in Cornwall touching this single-handed and double-handed drill business, the mere statement of which illustrates the merits of the two systems, and at the same time suggests curious comment upon the laws of wages and labor in Europe, where the lines under the same as shaped to-day are very distinctly drawn. An agent, in letting his contract at so much per fathom, calculates that the miner, whether he work with the single or the double-handed drill, shall be allowed to earn only about $100 per month. It has grown into custom, therefore, to pay him 20 per cent. less per fathom for single-handed drilling than for double-handed; the calculation being that at the end of the month the miner will have made it up. Where $100 would be allowed per fathom for double-handed work, only $80 would be counted upon being given for the same single handed. In other words, the latter, where it can be used, is 20 per cent. more effective and more economical to the mine owner. To see that the latter profits wholly by it, is the agent's look-out, and he is held responsible. No wonder that an "Eastern man" with a bit of native ignorance should be somewhat prejudiced against single-handed drilling.

For shafts, and sinking generally, the double-handed drill with common powder is undoubtedly the best. Rapid progress, under efficient blows and large blasts, render it advantageous. But in ends, overhead work, stopes, or narrow places, even with common powder the single-handed drill is more effective and economical. The "Eastern man," and the intelligent mining superintendent who swears by him, are, in fact, a little behind the age, since all the world outside of the view from Carnbrea, has been using the single-handed drill for, we know not how long. The latter measures about ⅞ of an inch; the double drill from 1¼ to 1½ inches.

RUSSIAN BATHS.—The opening exhibition of the new Russian Steam, Turkish and Roman Bath House, at No. 528 Pacific street, by Dr. F. Zeile, will take place at two o'clock this P. M.—open from two until eight P. M.

Placer Sulphurets.

Different opinions prevail regarding the quantity of gold contained in the iron pyrites of the deep placers; but those who have taken pains to find out, and who have considerable interest therein, declare that the hydraulic mining sulphurets are nearly barren, and will not pay for saving. Fire assays, mill workings after roasting, and chlorination tests alike, are said to give this general result. But other cases are known to us where gold has been found, in very fair quantity, in precisely that kind of sulphuret which is pronounced to be barren—the formations in old trees; and we are told by others that in spots the ancient river pyrites are more richly auriferous than they are in others.

A slovenly fire assay is not a sufficient test for the existence of paying quantities of gold in scattered iron pyrites. The assayer must concentrate his product, and avail himself of repeated scorifications; but it is better still to chlorinate, on a considerable scale.

Much of the river sulphuret crystallizes in the rhombic or trimetric system, the result bearing the name of markasite, for distinction; but the monometric and the trimetric pyrites frequently occur together, and are chemically the same—Fe S^2. Mr. Maltman, of the chlorination works at Nevada City, thinks that the ancient river pyrites are all markasite, and that they do not contain any gold in economical quantities. A variety of markasite which is softer (H. 3 to 4, instead of 6) and lighter (G. 3·5, instead of 4·6), and which contains chemically bonnd water, is called water pyrites, by Breithaupt.

Wurtz has brought to attention the fact that sulphate of iron and chloride of iron, substances common in subterraneously circulating waters, dissolve gold at low temperatures, the latter doing it very freely. It is possible that the watery sulphate of iron, with its gold, in changing to a sulphide by accession of sulphur from organic sources or other reaction, and becoming insoluble or precipitating, would not inclose so much of the precious metal in markasite, as in the monometric sulphuret.

We know that the hydraulic mining sulphurets and tailings do retain large percentages of gold, whether it be free, or rusty, or in mercury; touching here upon a purely theoretical question, yet which, none will deny, is also of practical importance.

Black Silver Sulphurets Replaced by Red Silver and Iron Sulphurets.—The constant changing and relocation of metals in the bowels of the earth through the agency of acid or alkaline waters, is exemplified by the existence of pseudomorphs of other minerals after silver-glance—the soft black sulphuret of silver, the choicest and most especial ore of that metal. At Braod, near Freiberg, there have been found recently (and can yet be obtained) replacements or pseudomorphs of red antimonial silver, and of iron pyrites, in the ground, and mask, so to speak, of silver-glance; the former, baser ores, having assumed the crystallization form of the latter,—a silent but unmistakable record of the former existence of black silver, where only the sulpburet of iron and pyrargyrite are found by the miner.

There have been over 100 applications for space at the Mechanics' Institute Fair, most of them from residents outside of San Francisco—from Oregon, Nevada, Sandwich Islands, etc. To prevent the dissatisfaction that followed the announcements of the committees last year, the Board of Managers have determined to appoint all the committees before the opening of the Fair; but, to prevent exhibitors from attempting to influence the decision of the judges, their names will be kept secret until after they have made their report of awards.

Inventions and Patents.

New Patents Issued to Pacific Coast Inventors.

From official reports to DEWEY & CO., United States and Foreign Patent Agents, and Publishers of the Mining and Scientific Press.
Copies of any U. S. Patent Claims furnished immediately at small cost. Full copies of American or Foreign Patent Claims can be obtained by telegraph or mail through this office.

For the Week Ending June 1st.

Reducing Sulphur Ore.—Charles W. Moore, San Francisco, Cal.—90,677.

I claim the use of black oxide of manganese, burnt lime, and charcoal, in combination or together, as a desulphurizer, substantially in the proportion and manner, and for the purposes specified.

Carriage Wheel.—Eldridge G. Woodside, San Francisco, Cal.—90,714.

I claim the elastic packing-rings B, with their projections *c* and recesses *g*, and with or without shoulders, *b b*, *f*, applied to the ends of the box C, in combination with the hub A, the ends of the interior of which are of a form corresponding to that of the rings B, substantially as and for the purpose described.

This invention is simply an addition to or improvement in a patent held by Mr. Woodsides, of which an extended notice has already been given in the Press, and consists in a broader and more general application of the rubber or plastic packing rings, so as to embrace their use when applied to wooden hubs, boxes, etc.

Electro-Maonetic Amalgamator for Gold and Silver.—Almarin B. Paul, San Francisco, Cal.—90,777.

I claim 1. The construction of the horizontal rotating hollow-axled glass or earthen cylinder A, for the purpose of amalgamating and separating metals, whether precious or base.

2. The introduction of electricity, through hollow axles, or trunnions, into glass or earthen barrels, for the purpose of preparing ores for amalgamation, and for separating metals.

3. The introduction of magnets into glass or earthen barrels, for the purpose of acting magnetically upon ores during separation and amalgamation.

4. The amalgamation of pulverized ore, in a dry or wet condition, with mercury, in glass or earthen barrels, or cylinders.

Burglar Alarm.—Henry Bergstein, San Francisco, Cal.—90,809.

I claim, 1. The lever A, spring *b'*, and wire D, when arranged as described, in relation to a window-sash, and combined with the alarm device I H' *h1 h3*, in the manner described, and for the purpose set forth.

2. The band-slide M, signal-board L, wire *k*, and lever K, when combined and arranged with each other, and with the alarm device I H' *h1 h3*, as described, for the purpose set forth.

Washing Machine.—Frank Buckelew, San Rafael, Cal.—90,817.

I claim constructing the tub with the supporting-cleat D, and with inclined sides A B, against which the fabric strikes as the wheel is turned, with the radial arms G, provided with openings G', to which the fabric to be washed is attached, as set forth and shown, for the purpose specified.

Hoisting Apparatus.—Lewis Cutting, San Francisco, Cal.—90,823.

I claim, 1. The brake-bar I, provided with the angular shoulders K, in combination with the brake D, horizontal brake M, and connecting-rod F, the whole constructed and arranged to operate substantially as described.

2. The slotted link L, for connecting the brake-bar and horizontal brake, as described, and the pin P, for arresting the downward movement of the brake-bar, substantially as set forth.

Gang Plow.—Corydon A. Fargo, Soquel, Cal., assignor to himself and Barber Darling.—90,831.

I claim, 1. The bent plates D D, attached to the outer frame, as described, the vertical set-screws D' D', which bear upon the said plates, for raising or lowering the plow-beams, substantially as set forth.

2. The vertical ways E E, friction rollers E' E', operating in the said ways, and the transverse bar F, to which the rollers are connected, substantially as and for the purpose set forth.

3. Connecting the two crank-axles H H by the rod K', so that both of the said axles may be operated by the upright levers L L', substantially as and for the purpose specified.

4. The set-screws J J, operating in the beams of the plow-frame, and linked to the arms 1.1 of the axles, in combination with the said axles, as and for the purpose set forth.

5. In combination with the levers L L', operating in the double rack M, the pawls R R, for unshipping, or releasing the levers alternately from the notches P', substantially as and for the purpose specified.

6. The front-end cross-beam of the outer frame, for attachment of the neap, or pole, axle, and crank axle, of the driving wheels, in combination with the crank-axle S', and semi-circular rack U, the whole constructed and arranged to operate substantially as specified.

Grain Separator.—Andrew Hunter, San Francisco, Cal.—90,844.

I claim, 1. The formation of the chuts B and C, with screen W W, and perforated plates Y Y Y Y, and inclining as shown in fig. 1, substantially as described, and for the uses and purposes as hereinbefore set forth.

2. The combination, with the grain-separating chutes, of the mechanism substantially such as herein described, for imparting a horizontal vibratory, or both horizontal and vertical vibratory movement to the same, in the manner and for the purposes set forth.

3. The combination of cross-bars N N with chutes B C, set-screws O and M, and pulleys X X, substantially as described, and for the uses and purposes hereinbefore set forth,

4. The combination of hopper E, feed-board I, feed-roller F, eccentric-roller H, substantially as described, and for the uses and purposes hereinbefore set forth, said combination of hopper, feed-board, and rollers to be attached to any machine for similar uses.

Wagon Spring.—Edmond P. McCarthy, San Francisco, Cal., assignor to himself and John Graot.—90,861.

I claim the bolt E, constructed with the head J H,' as described, so as to countersink above and below it in the cushion, or spring, substantially as specified.

Device for Holding Horses Attached to Carriages.—Augustus Moore and John Aylword, Mission of San José, Cal.—90,865.

We claim the ring C, to which is attached the strap H, when used in connection with bent arm G, and combined with connecting-rod E and T-shaped bar E', as described, for the purpose set forth.

DESIGNS.

Blackboard Brush.—Daniel Carpenter, San Francisco, Cal.—3,512.

This is an improved brush or rubber for removing chalk marks from blackboards, and consists in making the back of the brush of leather or other flexible material. The rubbing surface can be either sheepskin with a thin coating of wool, or plush, between which and the back is stuffed wool, hair or other elastic substance, thus making a perfectly flexible brush which will not accumulate chalk dust, and will be comparatively noiseless when dropped on the floor—a requisite, especially when employed in school rooms. It also prevents mutilating the blackboard, on account of its elasticity.

For the Week Ending June 8th.

Grain-Separator and Mixer.—James J. Crowley, San Francisco, Cal.—90,932.

I claim, 1. The device for regulating the feed, consisting of the hinged bottom *a*, the lug *b*, and plate *c*, operated by the screw *d*, substantially as herein described.

2. The oscillating frame K, with the screens D, F, G, and I, and the discharge-trough E and J, for separating and conveying the different classes, substantially as herein described.

3. The mixing-cylinder H, with its stirrer P and the overflow-trough *h*, substantially as and for the purpose described.

4. In combination with the mixing-cylinder, the tank R, with its adjustable gate S, for supplying the solution, substantially as described.

5. The vertically-shaking screen W, with its operating-cam Y, for partially drying the grain and discharging it, substantially as herein described.

This invention relates to a machine by which the different grains, but more especially wheat, may be separated from other sorts, and also from mustard and all other small seeds, so that a pure and unadulterated grain may be obtained for seeding purposes, and that only the largest and best shall be retained for that purpose. It also consists in providing a mixer by which a solution of sulpbate of copper or bluestone is thoroughly incorporated with the cleaned grain, and it is ready to be sown with less than half the expense and time ordinarily devoted to it.

Process of Collecting Gold and Silver from Ores.—August F. W. Partz, Oakland, Cal.—90,955.

I claim, 1. Placing the positive electrode at the bottom of the vessel containing the ore-pulp, and imparting to the said vessel and electrode a swinging or shaking motion, which will cause the heavier particles of the ore to settle, and thus be brought and kept in contact with the said electrode, substantially in the manner and for the purpose herein specified.

2. The use of metallic tubes as negative electrodes, substantially as described.

Device for Turning Saw-Logs.—Warren Richardson, Colfax, Cal.—90,959.

I claim the blocks B B, sliding vertically in mortises, and having bevelled tops, in combination with the eccentrics I I and shaft C, the whole being constructed and arranged substantially as and for the purpose set forth.

This invention relates to a new and improved device for canting saw logs after they have been faced by the saw on one side, and require to be turned so that the remaining sides may also be faced, and in fact it is used to slide the log or stick being sawed to its place on the carriage at any stage of the sawing, when care is to prevent splitting or injury to the edges or corners of the stick.

Composition for Destroying Ants.—John Douavan Dennis, Gilroy, Cal.—91,094.

I claim the use of the above mentioned composition of crystallized corrosive sublimats, pulverized red Cayenne pepper, and pulverized gum camphor, in about the above mentioned proportions, for the purpose of perfectly and effectually poisoning, killing and banishing ants, preventing their harboring, dwelling or remaining in or about the houses, cupboards and pantries, or any other places or articles whatever.

Machine for Cleaning Oats.—William D. Freeman, Tomales, Cal.—91,110.

I claim a riddle, as shown and described, and to be used as an oats-cleaner, and its operation in threshers and separators, for the purposes specified.

Steam-Packing.—A. H. Hall and H. T. Lee, Marysville, Cal.—91,120.

We claim the construction of the malleable metal strips, substantially as described and for the purpose set forth.

Machine for Polishing Shirt-Bosoms.—John J. Kenna, San Francisco, Cal.—91,138.

I claim the roll A, provided with the recess B, substantially as and for the purpose set forth.

A new map of Treasure Hill is about to be issued by W. H. Hall, C. E.

New Inventions.

A female mechanic at Springfield, Mass., has invented a new sewing machine, for which wonderful merits are claimed.

Improved Champagne Bottle.—An attachment to a champagne bottle, patented in England, permits a part of the contents to be withdrawn without in the least injuring the rest.

Pulverized Vine Roots.—A party in France has patented a method of "Utilizing pulverized vine-roots as food for cattle and apparatus for grinding the same.

Aerostatics.—De Louvre, of Paris, France, has patented an apparatus whereby he claims aërial navigation can be accomplished without balloons.

New Iron Process.—A process has been invented in Michigan by which it is claimed Marquette ore can be converted into malleable iron in forty minutes.

New Silk Reel.—Mr. Joseph Newman, the pioneer silk manufacturer in this city, has made application for a patent for a machine for reeling, of a novel construction. The plan now in general use for reeling is to have a brick stove to heat the water required to dissolve the gum in the cocoons. Mr. Newman has a small sheet-iron stove on the floor under the reel, with copper pipes leading to the hot water baths, where the cocoons are wet and reeled while in the hot water. He is now using one of these machines at his rooms on Commercial street.

New Motive Power.—A New York engineer has proposed a novel idea for the utilization of "wave power." He builds a dyke against which the waves may dash with all their fury, and roll up as high as their impetus will carry them; but when they go back it must be by a circuitous canal route, over a water wheel. The waves are thus made to fill a pond, which is drawn off leisurely. This is an improvement on the well-known tide-mill practice. The impetus of the waves or breakers takes the water to a higher elevation than a smoothly flowing tide.

Favorable for Inventors.

As may be seen by the increased list of patents issued for the past few weeks, the business of the patent office is being expedited, and examinations may hereafter be expected more promptly on applications made. We are now obtaining many of the patents for Pacific Coast inventors in one-half the time formerly required.

Twenty-Eight Years' Litigation.—The "hook-headed spike" patent case—commenced in 1841 by Henry Burden, proprietor of the Troy Iron and Nail Factory, to recover damages of Corning & Winslow, proprietors of the Albany Iron Works, of Troy, for the infringement of Mr. Burden's patent upon the machine for the manufacture of railroad spikes—has at length been finally adjudicated. The complainant was awarded about $80,000, and $50,000 costs. The patent right expired long ago.

Patents to Foreigners.—Applications for patents in the United States from inventors in European countries are increasing rapidly in number.

Lander Hill.

During the years 1867 and 1868, there were reduced by Mr. Curtis at the Manhattan mill, Austin, nearly 9,000 tons of ore, chiefly from Lander Hill, which produced about $2,000,000, averaging as follows:

1867.	*Average.*	1868.	*Average.*
January	$101 04	January	$182 63
February	190 90	February	188 54
March	166 15	March	184 36
April	212 29	April	212 48
May	111 24	May	200 95
June	107 96	June	229 76
July	126 64	July	220 82
August	204 83	August	316 95
September	214 87	September	266 26
October	236 89	October	173 02
November	206 23	November	266 73
December	187 42	December	165 87

All under $80 per ton is thrown on the dump, as worthless under present circumstances.

Many a new company has been successful, recently, in "raising the wind" on less than $80 ore, without a vein.

Continental Life Insurance Company, 203 Montgomery street, corner of Pine.

Coal will be King.

We clip the following from an article in the *U. S. Railroad and Mining Register:*

"China and the United States have almost a monopoly of the world's coal. The immensely productive fields of England are small and must soon be exhausted. We say soon; we mean, in two or three centuries; for what is that to the thousands of years in which mankind has inhabited the planet, and will continue to inhabit it? The British annual coal trade has reached one hundred millions of tons. That part of the Pittsburg coal-bed which lies within the Pennsylvania State lines alone will bear the extraction of a hundred millions of tons per annum, for 2,000 years. The calculation has been carefully made. There is as much more in those parts of the bed which extend into Ohio, Virginia and Kentucky; and four times as much more, in the beds which underlie it. So much for the Appalachian coal field merely. The Illinois, the Michigan, the Iowa and North Missouri, the Kansas coal-fields will each of them compare with it in extent, although not in depth of measures, number of beds, and quality of fuel. And recent explorations have shown extensive fields of Cretaceous and Tertiary coals in the interior of the continent.

China seems to have equally numerous, equally large, and various coal fields. Every one of her sixteen provinces or kingdoms supplies itself with mineral fuel from its own mines. Let the steam engine once fairly settle and breed in Kiang-su, or Chen-Kiang, or Fuh-kien, or Kwang-tung, and we shall see what we shall see. The west will find it hard to hold its own. Destiny may exact a century or two of leisure to finish up the job; but when it is done, the History of Mankind will wear a new face. England will have retired up the left, and the stage will be occupied by the three principal *dramatis personæ*, China, Russia and the United States; all the present kingdoms of Christendom, poorly supplied with coal, remaining mere supernumaries."

How to Recognize Good Meat.—Dr. Letheby says: "It is neither of a pale pink, nor deep purple tint. It has a marbled appearance from the ramifications of little veins of fat among the muscles. It should be firm and elastic to the touch, and should scarcely moisten the fingers—bad meat being wet and sodden and flabby, with the fat looking like jelly or wet parchment. It should have little or no odor; diseased meat has a sickly, cadaverous smell, when the meat is chopped up and drenched with warm water. It should not shrink or waste much in cookiug. It should not run to water or become very wet on standing a day or so, bnt should, on the contrary, dry on the surface. When meat is dried at a temperature of 212° or thereabouts, it should not lose more than from 70 to 74 per cent. of its weight, whereas bad meat will often lose as much as 80 per cent."

Thickness of Gold Leaf.—Fifty years ago a workman reqnired 18 or 19 dwts. of gold to make 2,000 leaves; now only 14 or 15 dwts. is required. The thickness of each leaf is ahout one 280,000th of an inch. It would take 120 of these sheets to make one as thick as a sheet of ordinary printing paper.

The Compressed Drill is being introduced into the Lake Superior mines. The *Miner* says that a gentleman connected with the Phœnix mine, Eagle river, has recently procured one of these drills, which he proposes to subject to a thorough test. Much is claimed for this drill in cheapening the cost of drilling in mines, aud the *Miner* promises to note and report results.

Sale of Idaho Mines.—A letter from Placerville, I. T., June 3d, says: "The claims owned hy Langurie, Larkiu, Shelly & Mills, on Giant Creek, have been bargained for $40,000. The Barnard claim, adjoining, has also been sold for $45,000.

To Clean very Dirty Brass.—Rub some bichromate of potassa fine in a mortar; pour over it about twice its hulk of sulphuric acid, and mix this with an equal quantity of water. With this mixture, the dirtiest brass is cleaned in a trice. Wash immediately in plenty of water, wipe it, and rub perfectly dry, and polish with powdered rotten-stone.

A large portion of the estate of the late Baron Rothschilds was invested in United States bonds.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,

SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continuat working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,

SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodcuff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.

San Francisco, May 1, 1868. 18v16tf

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,

SAN FRANCISCO.

All kinds of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, turnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. GALLAGHER. J. H. WEED V. KINOWELL.

9v13-1y

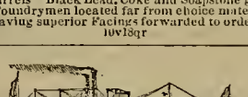
FOUNDRY FACINGS.

BENJAMIN ELLIOT,

No. 483 Brannan street.....San Francisco,

Manufactures Foundry Facings constantly, from choice coals. Bituminous, packed in tight sacks. Anthracite and Charcoal ground together or separate, packed in whole or half barrels Black Lead, Coke and Soapstone ground to order. Foundrymen located far from choice material, can rely on having superior Facings forwarded to order.

10v13qr



JAMES MACKEN,

COPPERSMITH,

226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

13v11

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured 24v16qr

CITY IRON WORKS COMPANY.

CLERC & CO.,

IRON FOUNDERS,

Steam Engine Builders and Makers of all kinds of Machinery,

6v11tf qr No. 28 Fremont street, San Francisco.

Miners' Foundry

—AND—

MACHINE WORKS

Nos. 245 to 255 First Street,

San Francisco.

HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS. FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS,
OIL WELL TOOLS, ROCK BREAKERS,

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches,

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE,

The most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,

13v14-qr CYRUS PALMER.

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular Boilers, with plain circular or spiral corines. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas, but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Buobar's Patent Self-Adjusting Steam Pistoo PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,

14v11 Sacramento City

THE RISDON

Iron and Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,000,000.

Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Hinsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch.

Directors:

S. F. Butterworth, Chas. E. McLane,
Lloyd Tevis, John N. Risdon,
Jas. Pollock, Joseph Moore.
Ben. Holladay,

JOHN N. RISDON, President.

Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 24v17-qy

G. T. PRACY.

MACHINE WORKS,

NOS. 109 and 111 MISSION STREET,

Between Main and Spear.

New and second-hand

Engines and Boilers,

FOR SALE.

Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

PRACY'S

New and Improved

STEAM ENGINE

REGULATORS,

The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S

Shingle Machines

on hand.

Particular attention paid to Repairing.

☞ All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

HUGH H. LAMONT. WM. CALDWELL.

Cyclops Engine and Machine Works,

Construct and Repair every description of

Stationary and Marine Engines, Mill and Mining Machinery.

Special attention given to Repairing Machinery.

ap17-3m 113 Beale street, near Mission, S. F.

Phœnix Iron Works.

JONATHAN KITTREDGE, Proprietor,

Nos. 18 and 20 Fremont street, near Market, San Francisco.

MANUFACTURER OF

Fire-Proof Doors and Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge, Prison

FORGING AND MACHINE WORK,

IMPROVED FIRE-PROOF SAFES,

FIRE AND BURGLAR-PROOF SAFES,

Of a superior make. manufacturer of the celebrated

MONITOR SAFE.

BANK VAULTS AND SAFES,

Of every description, made to order at short notice. A large stock of SAFES of all kinds constantly on hand

Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the

1v17tf United States

$500 WANTED—TWENTY MEN WITH $500 EACH—must be men of the right stripe—to join an expedition that is organized in this city.

CARLOS O'DONNELL'S

California Cordial Tonic,

—OR—

Wild Cherry Bitters.

TRADE C. O. D. MARK.

This elegant preparation is acknowledged by all who have used it to be the most efficient remedy for every disease of the

STOMACH AND BOWELS,

Yet introduced to the notice of the public. Immediately on taking a dose of it, the patient will find a genial glow pervading his entire system, and its steady use for a short time will be followed by a healthy appetite and a good digestion, even in the case of the most confirmed dyspeptic.

To all who are suffering from

INDIGESTION,

DYSPEPSIA,

DYSENTERY,

DIARRHŒA,

NERVOUS AFFECTIONS,

Or any of the manifold troubles caused by a diseased action of the stomach, this remedy is confidently recommended as a safe and certain cure.

N. B. JACOBS & CO., Sole Agents,

15v18-3m 423 Front street, San Francisco.

Pacific Mail Steamship Co's

STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the 10th, 17th and 30th of each month that has 30 days.

On the 10th, 18th and 30th of each month that has 31 days.

When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 17th falls on Sunday, they will leave on the Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departure of the 17th or 18th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

The following Steamships will be dispatched on dates as given below:

June 1—GOLDEN CITY.....Capt. Wm. F. Lapidge, Connecting with ARIZONA, Capt Maury.
June 9—MONTANA.....Capt E. S. Farnsworth, Connecting with ALASKA, Capt. Gray.
June 18—COLORADO.....Capt. Wm. H. Parker, Connecting with HENRY CHAUNCEY, Capt. Connor.
June 30—CONSTITUTION.....Capt. Wm. H. Hudson, Connecting with ARIZONA, Capt. Maury.

Passengers berthed through. Baggage checked through. One hundred pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets to Liverpool by the "Inman" and "National" Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—If desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

For Merchandise and Freight to New York and Way Ports, Company's Form of Bill Lading only used.

No Freight will be received on board after 2 P. M. of the day prior to the steamer's departure.

The Steamship CHINA, Capt. Worsw, will be dispatched for YOKOHAMA and HONGKONG on FRIDAY, June 4th, 1869, at noon connecting at YOKOHAMA with the steamer NEW YORK for SHANGHAI.

For passage, freight and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

To Quartz Mining Companies.

To be sold positively within the next three months—the MINES, ENGINE, MILL, and entire Machinery of the TEMPLAR NO. 2 Quartz Mining Company, located at Indiana Ranch, Yuba County, consisting of—

One Steam Engine, 60-horse power, made by Burden, Brooklyn, New York.
Two large Boilers, in complete order.
One Eight-stamp Battery.
One Chile Mill.
One Cornish Lift-Pump, 6 inches, of superior make and finish.
280 feet of 5-inch Iron Suction Pipe.
One large Water Tank.

And also all of the necessary machinery, with Belting, Feed Pumps, Hose, Turn Tables, Cars, Ropes, Track Iron, Flumes, Plates, with Blacksmith Shop and all Tools and requisite implements to be found in a large and first class quartz mill.

The Company having ceased operations intend selling off their effects as speedily as possible.

For Particulars as to price, etc., address, by letter or otherwise, L. W. CAMPER, at Indiana Ranch; GEORGE B. HORNISH, Marysville; or E. W. HASKELL, Pacific Fruit Market, San Francisco. 21v18-1m

WINDMILL

For Sale Cheap!

Entirely New and of Modern and Approved Style.

For particulars apply to or address this office.

THE CHARLES HARKNESS

Patent Wax Candles,

Have now an established reputation on this Coast. Their uniform quality, much superior to any Adamantine Candles, is

Well Known to Miners.

They burn longer and better than other kinds, and are really the most economical Candles in the market.

FREEMAN, SMITH & CO.,
110 California street,
Manufacturers' Selling Agents. 21v18-3m

PROPOSALS WANTED!

ARTESIAN WELL.

THE OREGON

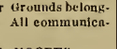
STATE AGRICULTURAL SOCIETY

will receive proposals until the first day of July, 1869, for boring an ARTESIAN WELL on the Fair Grounds belonging to the Society, 1½ miles from Salem. All communications and proposals to be addressed to

J. H. MOORES,
23v18-2w Salem, Oregon.

California Steam Navigation

COMPANY.



Steamer CAPITAL.....CAPT. E. A. POOLE
" CHRYSOPOLIS.....CAPT. A. FOSTER.
" YOSEMITE.....
" CORNELIA.....CAPT. W. BROMLEY
" JULIA.....CAPT. E. CONCKLIN.

Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville Colusa, Chico, and Red Bluff.

Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE,
13v12 President.

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. BUFFINGTON,
Room 37 New Merchants' Exchange, California street, San Francisco 17v15-tf

CHANGE.

C. C. HASTINGS & CO.

Wholesale and Retail!

SUPERIOR GOODS! REDUCED RATES!

C. C. HASTINGS & CO.,

SUCCESSORS TO

Heuston, Hastings & Co.,

SAN FRANCISCO AND NEW YORK,

Announce to the friends of the old firm, and the public at large, that their present business arrangements are such that they are enabled to offer the best and most stylish goods on the Pacific Coast at a great reduction from former prices.

AT WHOLESALE.

The attention of the merchants throughout the Pacific Coast, is called to the fact that we are now prepared to fill their orders for superior goods in

Strictly Custom-Made Clothing,
Suits, Gloves, Hosiery, and
Furnishing Goods, Trunks,
Traveling Bags and Valises,

In lots to suit at regular wholesale rates.

CLOTHING TO ORDER,

Made either in New York or San Francisco, under the pervision of the best cutters in America.

DIRECTIONS FOR MEASUREMENT

Sent to any address upon application, and goods forwarded by Express on receipt of orders. Satisfaction guaranteed

C. C. HASTINGS & CO.,
Successors to
HEUSTON, HASTINGS & CO.,
The Fashionable Clothiers.
New York and San Francisco.
8v18-3m

The Perfection of Prepared Cocoa.

MARAVILLA COCOA.

Sole Proprietors—TAYLOR BROTHERS, London.

The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skillful application of their soluble principle and elaborate machinery, produced what is so undeniably the perfection of Prepared Cocoa, that it has not only secured the preference of homœopaths and cocoa-drinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.

"A SUCCESS UNPRECEDENTED."

[See following extract from the Globe of May 14, 1868.]

"Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adapting their perfect system of preparation to this finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.

Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London.
6v18-6m

For One Dollar, Coin, Postage Paid.

QUARTZ OPERATOR'S HAND-BOOK.

—BY—

WHEELER & RANDALL.

San Francisco, 1865.

A cheap and handy book for Quartz Prospectors, Millmen, and Amateur Assayers.

This little work, of 130 pages, although partly devoted to a discussion of limited interest to general readers, contains instructions in the WORKING AND ASSAYING OF ORES, AND TABLES FOR REFERENCE, which renders it quite desirable and of frequent service.

Price, $1, coin—$1 30 in currency or postage stamps. For sale by

DEWEY & CO.,
Mining and Scientific Press, San Francisco.

Our Patent Agency.

The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

Business Cards.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention

PAID TO

CONSIGNMENTS OF GOODS.
4v16-3m

CARD PICTURES,

ONE DOLLAR PER DOZEN,

And Photographs, Ambrotypes and Sun Pearls, by first class artists, at the lowest rates,

At SILVA'S, 64 Third Street,

Northwest corner of Mission. - - - - - San Francisco.
11v18-3m

SAN FRANCISCO MILL.

HOBBS, GILMORE & CO.,

Manufacturers of Boxes,

Market Street, bet. Beale and Main.

For sale—Mahogany, Spanish Cedar, and other Woods.
24v18 1m

NATHANIEL GRAY. H. M. GRAY.

N. GRAY & CO.,

UNDERTAKERS,

641 Sacramento St., cor. Webb, San Francisco.

☞Sole Agents for Burstow's Metallic Burial Cases and Caskets. 25v14tf

Farmers and Mechanics

BANK OF SAVINGS,

No. 225 Sansome Street.

Interest paid on Deposits. Money Loaned on Real Estate.

H. DUTTON, President.
GEO. M. CONDEE Cashier. 19v16-3m

J. J. JONES,

CARPENTER and BUILDER,

No. 324 Jackson street, between Sansome and Battery,

Stores and Offices fitted up with neatness and dispatch.
7v18f

M. S. BUCKELEW. GEO. LAMB. R. GROOM.

BUCKELEW & CO.,

Importers and Jobbers of

Choice Teas, Groceries and Provisions,

520 Market street,

Below Montgomery street. 17v18-3m

W. T. ATWOOD,

PURCHASER OF

COPPER ORES, BARS, MATT, Etc., Etc.,

505 Montgomery street, San Francisco.

The highest market price paid for ores assaying 10 per cent. and upwards. 23v17qr

W. C. CAMPBELL,

PATTERN AND MODEL MAKER,

No. 20 Fremont street, over Phœnix Iron Works, San Francisco.

Particular attention given to MODELS for the Patent Office Brands and Pattern Letters Cut. 4v18mtf

Farms and City Property.

C. H. WAKELEE & CO.,

601 California street, S. W. Corner Kearny street, buy and sell Farms and City Real Estate. Parties wishing to invest will find it to their interest to call on the . 13v18-3m

HO TEAMSTERS!

CONTINUE TO

USE HUCKS & LAMBERT'S

CELEBRATED

H & L Axle Grease,

To which you have given so decided a preference for the last

FOURTEEN YEARS,

It is the only reliable article

IN THE MARKET

Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.

☞Be sure and ask for the H & L brand, and see that the

TRADE MARK H & L

IS ON THE COVER OF THE PACKAGE

NONE OTHER IS GENUINE.

FOR SALE IN EVERY STATE IN THE UNION.

A Long Desired Article

FOR CLEANING THE HEAD AND HAIR. THE CLEANing of the head and hair has been the subject of consideration for a long time. This object will be accomplished by using

CAMILLE CHAMPOO,

which not only does away with the poor soap so offensive to use, and so injurious to the hair, but it cleans the head, strengthens and beautifies the hair, preserves the color, and prevents baldness. It is cooling in nature, and can be used with safety and reliance on the smallest infant. Price 50 cents per bottle. Prepared by EMERTON & LUELLING, 273 Mission street, San Francisco, Cal.

HEATHFIELD & BOGLE, Wholesale Druggists, 206 and 208 Battery street, San Francisco, sole Agents for the Pacific Coast. 24v18-3m

Professional Cards.

Notice To Mining Companies.

The undersigned offers his services to the mining public. Having devoted several years to the study of mining and metallurgy in some of the best schools and works of Europe and being acquainted with the metallurgical treatment of ores as practiced on this coast, he is confident of his ability to render valuable aid to parties employing him.

CHAS. C. RUEGER.
Address, care of Mining and Scientific Press. 23v18

J. S. PHILLIPS, M. E.,

CONSULTING ENGINEER,

Examiner of Mines, etc.,

423 Washington street.....San Francisco.

(Having had 33 years' experience in Europe and America,) supplies drawings and designs for Pumping, Hoisting, Crushing Separating, Roasting, Chlorinizing, Milling, Lixiviating, Precipitating, and Smelting Works. Minerals analyzed, and advice given for beneficial treatment. Lessons on the Discrimination and Assay of Minerals by Blowpipe, Chemicals, Scorifier and Crucible. 4v17tf

JOHN ROACH, Optician,

Has removed from 522 Montgomery street to

510 Washington street,

East of Montgomery.

Surveying Instruments made, repaired and adjusted
22v17-3m

JAMES M. TAYLOR,

Attorney and Counsellor at Law,

Court Block, 636 Clay Street

SAN FRANCISCO.
2v15-1qy

GILES H. GRAY. J. MES M. HAVEN.

GRAY & HAVEN,

ATTORNEYS AND COUNSELORS AT LAW,

In Building of Pacific Insurance Co., N. E. corner California and Leidesdorff streets,

27v16 SAN FRANCISCO.

DR. KNOWLES, Dentist,

HAS REMOVED FROM MONTGOMERY to 331 Kearny street, west side, between Pine and Bush, San Francisco.
21v13-1y

MEUSSDORFFER,

HAT MANUFACTURER

And dealer in

Hats and Caps

AT WHOLESALE AND RETAIL.

636 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of D and Second streets.....Marysville.
72 Front street.....Portland, Oregon.

Our wholesale House, 623 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

THE GIANT

POWDER COMPANY

Is now prepared to fill all orders for

GIANT POWDER,

Put up in Boxes, either in Bulk or in Cartridges.

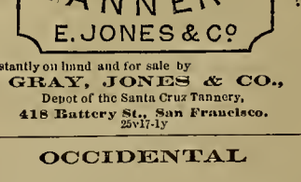
General Agents,

BANDMANN, NIELSEN & CO.,

25v16-3m 210 Front street, San Francisco.

Pump Leather.

The attention of MINING COMPANIES, and others requiring a superior article for Hydraulic purposes, is invited to the heavy Oaked Tanned Pump Leather, manufactured and prepared expressly by the undersigned.



Constantly on hand and for sale by

GRAY, JONES & CO.,
Depot of the Santa Cruz Tannery,
418 Battery St., San Francisco.
25v17-1y

OCCIDENTAL

Insurance Company,

OF SAN FRANCISCO.

Cash Capital, - - - - - - - $300,000

COLD COIN.

Office S. W. corner of Montgomery and California streets.

Fire and Marine Insurance.

All Losses paid in U. S. Gold Coin.

CHR. CHRISTIANSEN, President
B ROTHSCHILD, Secretary 20v17-3m

BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription to pay Wells, Fargo & Co's tariff on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

Power for Sewing Machines.

When the sewing machine was brought into general use, it was received as a great boon to womankind, on the supposition that it would greatly relieve and lighten her labor. But now it seems that a new invention is needed to lighten the labor upon the machine, which is working terrible havoc upon the health of those who are compelled to operate it with anything like continued work, especially such as is required in factories. Dr. Dio Lewis, a most reliable authority, says somewhat bluntly of girls so employed: "If they rnn a sewing machine they last from one and a half to two years, though some few stand it longer. Their backs give out, their spines give way. It is that ugly movement of the foot that spoils the spine."

Such an opinion needs no comment. The experience of every family where a ewing machine is operated a large portion of the time by any one person, is sufficient to condemn the use of this useful machine by the foot power of delicate women. Many devices have been put forward to remedy the evil. A Frenchman has recently invented a magnetic engine; but tho cost of operating such a machine must effectually prevent its coming into general use. Compressed air and water engines have been tried; but neither seems to meet with auy considerable degree of success. An arrangement of clock work was exhibited in this city a few years ago, but it cost about as much as the machine. Coiled springs of sufficient power occupy a large amount of room, and are very expensive.

What appears to be a most excellent device, is a series of peculiarly constructed elliptic springs, with a fusee attachment, for regulating the power derived from the same, the invention of Mr. Jacob Zuckerman, of this city. We understaud that the inventor has refused au offer of $50,000 for the same. This invention was patented through the Mining and Scientifio Press Patent Agency. Mr. Roger S. Day, of Folsom, Cal., has also secured protection through the agency conncctcd with this office, for an invention intended to accomplish the same object.

White Cloud, Nevada.

Mr. H. Bassett, Recorder of this new district, recently visited San Francisco and Santa Clara County, where he had ores from various lodes tested, much to his satisfaction. He returned to prosecute his work with renewed vigor. In a letter to the *Alta* he gives many interesting statements. A pure cold stream, containing about 250 inches of water, courses through tho cañon. Fifty-five ledges have been recorded. Two town sites have been located. The Moonta ledge carries a high per cent. of copper. The Poorman develops splendid looking silver ore. Wood, grass, water, health and ledges are abundant. We regret not having space to give Mr. B.'s letter in full.

Overland Fares.—Charges are being gradually reduced on the Pacific Railroad. The latest reduction, as per announcement on Thursday, was $173 in currency, from this city to New York, aud $153 to St. Louis or Chicago. The time to Chicago is 5 days, 7 hours; to New York, 7 days. The Chicago *Tribune* holds that the faro should be reduced to $60. As experieuce has proven that, withiu a reasonable limit, the profits of all railroads are iu proportion to the cheapness of their fares, we presume the Pacific road will continue to lower the rates from time to time, until the lowest paying rate is reached.

See illustration in our advertising columns of the automatic clothes washer and boiler, patented in 1864. The hot suds and steam, by the action of heat, are driven up through tubes, poured upon the clothes and forced through the fabric, cleansing them in the operation without labor or rubbing. ***

Company Transactions.

New Incorporations.

The following new companies have been incorporated:

MINING.

Frederika Silver M. Co.—June 12th. Capital stock, $800,000. Trustees: J. De la Montanya, L. J. Adams, G. H. Burnham, B. F. Swan and J. H. Pesinger.

Consolidation Silver M. Co.—White Pine. June 15th. Capital stock, $4,000,000, divided into 40,000 shares, of $100 each. Trustees: A. P. Stanford, Wm. B. Bowen, S. W. Glazier, M. T. McDonald and W. H. Sharp.

Montana M. Co.—Nevada Connty. Capital stock, $120,000; 2,400 shares, $50 each. Trustees: H. Silvester, C. W. Smith and J. I. Sykes.

Stockton Park H. A.—June 15th, Capital stock, $99,000; shares, $60 each. Trustees: H. H. Bancroft. Geo. L. Kinney, W. H. Wright, P. J. Merwin and G. A. Shurtleff.

Stockton and Copperopolis Slate Co.—Calaveras County. June 15th. Capital stock, $500,000. Trustees: E. S. Holden, A. Burkett, R. K. Reid, W. M. Baggs and E. A. Stockton.

HOMESTEADS, ETC.

Felton Tract H. A.—June 12th. Capital stock, $69,300. Trustees: C. A. Pollard, J. C. Damon, M. E. Austin, T. J. O'Keefe, J. B. Felton, W. P. Harrison and Jas. Alger.

San Mateo Land Asso'n.—June 12th. Capital stock, $37,500. Trustees: John Kurtz, A. Seligman, Walter B. Cummings, George Platt, B. H. Randall, Frank Soule and B. H. Freeman.

Lake Side Villa H. A.—Oakland. June 12th. Capital stock, $200,000; 80 shares, $2,500 each. Trustees: James Otis, John Wedderspoor and C. F. McDermott.

Pacifio File Co.—June 12th. Capital stock, $500,000; 5,000 shares, $100 each. Trustees: Joseph French, George W. Swan, James Gallagher, H. B. Purdy and G. S. Downing.

Meetings, Elections, Etc.

MINING.

Germania Consolidated M. Co.—June 10th. F. Smith, (President) J. L. Koster, (Vice President) M. Muhlenbrink, (Treasurer) C. Hubert and J. F. Blumberg. M. F. R. Schindler was appointed Secretary.

Allison Ranch M. Co.—June 12th. Trnstees: Alfred E. Davis, M. Colhert and J. D. Fry.

Capital M. Co.—June 12th. Trustees: T. R. Reynolds, James E. Freeman, A. C. Morse, C. S. Cassin and H. H. Beach.

Snow Flake M. Co—White Pine. Juno 12th. Trustecs: W. A. Darling, H. S. Warren, M. B. Bullard, G. D. Wyman and J. M. Buffington.

Hornet M. Co.—June 14th. Trustees: Robert Sherwood, P. B. Clark, W. G. Wayman, C. W. Fox and E. E. Haft.

Morning Star M. Co.—June 17th. Trustees: Geo. H. Eusign (President), F. J. Thibault, O. H. Bogart, L. Scott, N. C. Efford, H. M. Shute and S. A. Winall. T. J. Owens, Secretary.

Empire M. C.—White Pine. June 17th. Trustees: G. W. Beaver (President), J. Barron, G. W. Prescott, D. J. Williamson and Charles Bonuer. R. Wegeuer, Secretary.

HOMESTEADS, ETC.

Junction H. A.—June 10th. President, J. L. Blakie; Secretary, I. T. Milliken; Treasurer, J. C. Collins. Trustees: W. B. Cummings, J. W. Hoffschneider, A. Korbel and H. Epstein.

New Potrero H. A.—June 12th. Directors: Edward Barry, William Hollis, S. B. Goddard, John W. Nye, John Bell, J. T. McLean, George Hearst, R. J. Trumbull, C. S. Swinsou. John Bell, President, Edward Barry, Secretary.

Buena Vista H. A.—June 15th. Trustecs: George Cofran (President), C. W. M. Smith, N. Atkinson aud W. G. Doane. J. S. Luty, Secretary.

Oakland Prospect H. A.—June 16th. President, C. J. King; Vice President, J. L. Coggswell; Trustees: Amos Currier, N. P. Copp, H. L. Chamberlain, William Hollis and John Bays. Treasurer, Geo. R. Eckley; Secretary, J. F. Crosett.

Front Street, Mission and Ocean Railroad Co.—June 14th. Directors: N. D. Arnot, Henry Casebolt, Abner Doble, William Blackwood, D. N. Walter and Isaac Lankershim.

The grass ou the plains is becoming short, and stock is being sent to the mountaius.

Cast Iron Stoves.—M. Morin has demonstrated the escape of carbonic oxide from iron stoves heated to redness,—a fact urged by Messrs. Troost and Deville,—by direct analysis, both of the air of the room so heated, and of the blood of animals introduced into it. Such stoves should therefore be lined with brick or fire clay, so as to prevent the heating of the metal to redness.

Wonderful Invention!—To Housekeepers!

NEW METHOD OF

WASHING CLOTHES

WITHOUT LABOR.

JOHN REIST'S Celebrated Patent Automatic

CLOTHES WASHER AND BOILER.

This Boiler is most effectual, reliable, and universally recommended; and is the first SELF-ACTING, PORTABLE WASH BOILER, for household purposes ever made, and strange to say, has never been improved, as nearly all others, "which are infringements," have proved total failures. See decision U. S. Patent Office, November 1, 1868, for its wonderful operation and you cannot do without it. WM FRIEL, Agent for San Francisco,

25v1 3m 67 and 69 Fourth st., bet. Mission and Jessie sts.

Mining Notices.

French Silver Mining Company.—Location of Works: White Pine District, (formerly Lander County), State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of May, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. certificate.	No. Shares.	Amount.
W Reynvaan	49	25	$1 25
Louis Franconi	7	1050	52 50
Louis Franconi	9	1150	57 50
Louis Franconi	59	2250	112 50

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of May, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, California, on the twenty-eighth day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. jc12

Daniel Webster Mining Company.—Location of Works: White Pine County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Black, J J	27	50	$5 00
Black, J J	28	40	4 00
Black, J J	29	50	5 00
Black, J J	30	500	50 00
Brewer, Wm	53	10	1 00
Brewer, Wm	54	10	1 00
Brewer, Wm	55	5	50
Coupland, W F	74	100	10 00
De Ro, Thos, Jr	98	50	5 00
Evatt, W J	26	10	1 00
Farrington, Chas L	157	100	10 00
Hentz, A H	105	10	1 00
Hentz, A H	106	10	1 00
Hentz, A H	107	5	50
Jackson, Andrew	31	13	1 30
Jackson, Andrew	33	25	2 50
Jackson, Andrew	34	25	2 50
Jackson, Andrew	35	25	2 50
Jackson, Andrew	36	13	1 30
Jackson, Andrew	37	25	2 50
Jackson, Andrew	39	400	40 00
Jackson, Andrew	40	150	15 00
Jackson, Andrew	41	100	10 00
Jackson, Andrew	43	150	15 00
Jackson, Andrew	108	10	1 00
Jackson, Andrew	109	10	1 00
Jackson, Andrew	110	12	1 20
Jackson, Andrew	111	17	1 70
Proeschold, Chas	78	50	5 00
Strahle, Henry W	72	50	5 00
Strahle, Henry W	73	100	10 00
Strahle, Henry W	74	100	10 00
Strahle, Henry W	75	100	10 00
Strahle, Henry W	76	100	10 00
Stetson, Geo D	61	25	2 50
Stetson, Geo D	62	25	2 50
Stetson, Geo D	63	25	2 50
Selman, John	77	50	5 00
Schord, L G	55	25	2 50
Taylor, Holmes	64	50	5 00
Taylor, Holmes	65	100	10 00
Thompson, Ira D	100	50	50 00
Thompson, Ira D	101	25	2 50
Thompson, Ira D	102	25	2 50
Thompson, Ira D	103	25	2 50
Thompson, Ira D	104	300	30 00
Wigmore, James	50	10	1 00
Wigmore, James	51	10	1 00
Wigmore, James	52	5	50

And in accordance with law, and an order of the Board of trustees, made on the seventh day of April, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 418 California street, San Francisco, on the thirty-first day of May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. A UHRIG, Secretary.

Office, No 418 California street, San Francisco. my15

Postponement.—The above sale is hereby postponed until Wednesday, the thirtieth day of June, 1869, at the same hour and place. By order of the Board of Trustees.

jc5 O. D SQUIRE, Secretary.

Dios Padre Gold and Silver Mining Company, Alamos, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-ninth day of April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm Bibler	299	20	$60 00
Wm Bibler	323	5	15 00
Wm Bibler	389	25	75 00
Wm Bibler	411	25	75 00
Wm Bibler	414	50	150 00
W Bryarly	168	10	30 00
J C Jonghaus	175	5	15 00
J C Jonghaus	176	5	15 00
J C Jaughaus	177	5	15 00
E W McKinstry	405	25	75 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty ninth day of April, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., No. 426 Montgomery street, San Francisco, Cal., on Monday, the twenty-first day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

E. C. McCOMB, Secretary.

Office, cor Brondway and Battery streets. jc5

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Uill, Storey County, State of Nevada.

The Fifth Annual Meeting of the Stockholders of the above named Company, for the election of Trustees to serve for the ensuing year, will be held on SATURDAY, the seventeenth day of July, 1869, at 3½ o'clock P. M., at their office, 414 California street, San Francisco, Cal.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco jc19

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of May 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, (up stairs) Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty sixth day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fourteenth day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. my22

Notice.—The Annual Meeting of Stockholders of the "Kewnnee Silver Mining Company," for the election of Trustees and the transaction of any other important business, will be held at the office of the Company, No. 211 California street, on SATURDAY, July 10th, 1869, at 3 o'clock P. M.,

EDWARD BARRY, Secretary.

June 10th, 1869. je12

Marlborough Silver Mining Company.—Location of Works: White Pine District, (formerly Lamler County), State of Nevada,

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the fourth day of May, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J McDonald, Jr	16	2000	$100 00
W Reynvaan	71	25	1 25
Louis Franconi	7	1050	52 50
Louis Franconi	12	1150	57 50
Louis Franconi	72	2250	112 50
Warren J Lockhart	unissued	2000	100 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of May, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, California, on the twenty-eighth day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. jc12

North Star Gold Mining Company.—Location of Works: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of June, 1869, an assessment (No. 1) of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 10 second floor of No 402 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on Friday, the ninth day of July, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the thirteeth (30th) day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary.

Office, room No. 10 second floor of No. 402 Montgomery street, San Francisco jun5

Silver Wave Mining Company, White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of June, 1869, an assessment of twenty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 418 California street.

Any stock upon which said assessment shall remain unpaid on the eighth day of July, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-eighth day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, No. 418 California street, San Francisco je12

Silver Sprout Mining Company.—Location of Works and Mines: Kernsarge District, Inyo county, Cal.

Notice.—The Annual Meeting of the Stockholders of the Silver Sprout Mining Company will be held at the office of the Company, No. 408 California street, San Francisco, on TUESDAY, the twenty-ninth day of June, 1869, at 12 o'clock M., for the election of Trustees to serve for the cosuing year, and for the transaction of other business.

T. B. WINGARD, Secretary.

San Francisco, June 4, 1869. je5

The Press is one of the most valuable and instructive papers published in the United States, and every miner, millman, machinist and foundryman should be a subscriber. The information to be derived from its columns is worth many fold times the subscription.—*Grass Valley National.*

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

PHOTOGRAPHY.—FOR CABINET PHOTOGRAPHS, or Enameled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos 25 and 27 Third street, San Francisco. Every picture warranted to give satisfaction.
19v18 6m B. F. HOWLAND.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block San Francisco. 21v18-4w

DR. HALL has just returned from Europe after an absence of one year, during which time he has visited England, Ireland, France and Germany, and has held consultations with the following eminent physicians: Drs. Curling, Druit, Lee, Parker, Acton, Aitken, Churchill, Ricord, Velpeau, Boeck, Sperino, and Dewitz. Many of the cases in which he held consultation with the above named eminent physicians were, we are sorry to say, those of Americans. Americans will not now be under the necessity of leaving the Pacific Coast for Medical Treatment, for Dr. HALL has brought with him every new mode of treatment known to the greatest physicians of the world. To old residents of the Pacific Coast it is needless to mention the address; to new comers, however, it is necessary to mention that he may be found at the American Surgery and Dispensary, 402 Montgomery street, opposite Wells, Fargo & Co's. San Francisco. 21v18 3m

Pain Killer.—We beglleave to call the attention of the public to this long celebrated and unrivalled Family Medicine. The Pain Killer is a purely vegetable compound, and while it is a most efficient remedy for pain, it is a perfectly safe medicine even in the most unskillful hands. For Summer Complaint, or any other form of bowel disease in children or adults, it is an almost certain cure and has without doubt been more successful in curing the various kinds of Cholera than any other known remedy, or even the most skillful physician. In India, Africa and China, where this dreadful disease is even more or less prevalent, the Pain Killer is considered by the natives, as well as European residents in those climates, a sure remedy.

The Pain Killer is sold by all Druggists and dealers in Family Medicines.

REDINGTON & CO., and HOSTETTER & SMITH, San Francisco, Cal., General Wholesale Agents. jelm

Important to every one using Steam for any purpose.

CARVALHO'S
Patent Steam Superheater

[SECTIONAL END VIEW OF BOILER, WITH SUPERHEATER.]

Save Fuel! Saves Water! Saves Pressure!

Brief Extracts from letters from parties using Carvalho's Superheater. Full letters can be seen on application:

NAVY YARD, Washington, June 15, 1860.

"Superheater saves 12 per cent. in fuel and 10 per cent. more in speed of engine."

NAVY YARD, Washington, Oct. 8, 1867 (after *seven* years of service.)

"Superheater yet attached to boilers, and appears to be in good order."

HOWARD WATCH AND CLOCK CO., Boston, May 19, 1866.

"Superheater saves us at least 10 per cent. in fuel and gives a large increase of power."

JONES & SMITH, New York, March 21, 1867.

"Superheater saves 20 per cent. of coal, less steam pressure, exhaust more serviceable in drying paper."

STEAM ENGINE WORKS, South Brooklyn, April 23, 1867.

"Superheater saves not less than 20 per cent. fuel; no priming!"

CAOCKETT LEATHER CLOTH CO., Newark, N. J., Oct 16, '67.

"Superheater economizes 25 per cent fuel; does our work with 25 lbs. less pressure steam, and steam superior for drying purposes."

N. Y DYEING & PRINTING ESTAB., Oct 4, 1867.

"Superheater brings contents of our dye vats to boiling point in one-third less time and one-third less increase of water; saves us at least 15 per cent. fuel."

CONTINUOUS OIL REFINING CO., Binghampton, N. Y., Sept. 20, 1867.

"Superheaters give entire satisfaction, and we superheat to 55 deg—an increase of 200 deg."

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"Superheater saves 15 or 20 per cent. fuel; steam for paper mill now perfectly pure and dry—an important advantage in our business."

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CONTRA COSTA LAUNDRY, Oakland, July, 1868

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SIXTH MECHANICS' INST FAIR, S. F. Sept 4, 1868.

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And many other letters of the same tenor.

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Awarded Silver Medal, American Institute, New York, 1865.

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JOHN L. CONSTABLE, Engineer. 25v18tf

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"	2	" "	4½	"	16		
"	3	" "	5	"	18		
"	4	" "	5½	"	18		
"	5	" "	6	"	20		
"	6	" "	6½	"	22		
"	7	" "	7	"	24		
"	8	Flat Eye surface	4	"	16		
"	9	" "	4½	"	16		
"	10	" "	5	"	18		
"	11	" "	5½	"	18		
"	12	" "	6	"	20		
"	13	" "	6½	"	22		
"	14	" "	7	"	24		
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"	16	"	4	"	18		
"	17	Drifting	4½	lbs	$20		
"	18	"	5	"	20		
"	19	"	5½	"	22		
"	20	"	6	"	22		
"	21	Poll	4	"	20		
"	22	"	4½	"	20		
"	23	"	5	"	20		
"	24	"	5½	"	20		
"	25	"	6	"	22		
"	26	"	6½	"	24		
"	27	"	7	"	30		
"	28	Coal	2	"	15		
"	29	"	2½	"	15		
"	30	"	3	"	16		
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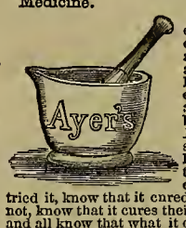

Perhaps no one medicine is so universally required by everybody as a cathartic, nor was ever any before so universally adopted into use, in every country and among all classes, as this mild but efficient purgative *Pill*. The obvious reason is, that it is a more reliable and far more effectual remedy than any other. Those who have tried it, know that it cured them; those who have not, know that it cures their neighbors and friends, and all know that what it does once it does always—that it never fails through any fault or neglect of its composition. We have thousands upon thousands of certificates of their remarkable cures of the following complaints, but such cures are known in every neighborhood, and we need not publish them. Adapted to all ages and conditions in all climates; containing neither calomel or any deleterious drug, they may be taken with safety by anybody. Their sugar coating preserves them ever fresh and makes them pleasant to take, while being purely vegetable no harm can arise from their use in any quantity.

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For **Liver Complaint** and its various symptoms, **Bilious Headache, Sick Headache, Jaundice** or **Green Sickness, Bilious Colic** and **Bilious Fevers**, they should be judiciously taken for each case, to correct the diseased action or remove the obstructions which cause it.

For **Dysentery** or **Diarrhœa**, but one mild dose is generally required.

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As a *Dinner Pill*, take one or two *Pills* to promote digestion and relieve the stomach.

An occasional dose stimulates the stomach and bowels into healthy action, restores the appetite, and invigorates the system. Hence it is often advantageous where no serious derangement exists. One who feels tolerably well, often finds that a dose of these *Pills* makes him feel decidedly better, from their cleansing and renovating effect on the digestive apparatus.

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These Machines Stand Unrivaled.

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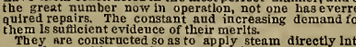

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2v17-3m **T. G. BURNING & CO**

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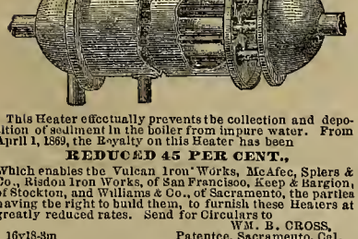

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This claim has paid its 19th regular dividend of $1,500 each, during the past four years, besides all the construction and other expense account, and has levied no assessments during the same time, and at present has on hand $3,000 in the Treasury, and no debts.

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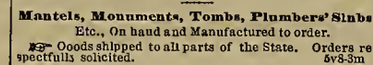

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Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.

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JOHNSON & BEST,
Manufacturers of all kinds of
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Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

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For the "American Year Book and National Register," for 1869.

Horace Greeley's Autobiography, and other new and popular works. Send for descriptive circulars.

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Pioneer Screen Works,
JOHN W. QUICK, Manufacturer,

Removed to A. Pritzel's Iron Works, 203 Fremont street, near Howard, San Francisco.

Screen Punching in all its branches, at rates reduced from 25 to 40 per cent. less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.

N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

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SPIRITS OF NITRE,
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—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
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Office and Laboratory, Sixteenth street, between Folsom and Harrison.

LOUIS FALKENAU, State Assayer.
☞ Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

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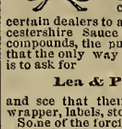
CELEBRATED
WORCESTERSHIRE SAUCE



Declared by connoisseurs to be the only
GOOD SAUCE.

The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for

Lea & Perrins' Sauce,

and see that their names are upon the wrapper, labels, stopper, and bottle.

Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L and P give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.

Caution against Fraud.

Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.

Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CROSS & CO., San Francisco. 3v18 6m

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,
8v13-1y Stove Store, No. 1 Clay street, below Davis.

Resources & Developments

HOW TO FIND AND LOCATE GOOD GOVERNMENT LANDS.—Determine what land district or locality is preferred; then go to the clerk of the Land Office of that district, or County Surveyor, and procure a sketch or diagram of the region, showing as far as possible what lands remain vacant. Very little additional information will enable the settler to accomplish his purposes. The present is a good season for agricultural prospecting, since the best idea can now be obtained touching quality of grass, drying out, and necessity for irrigation from the appearance of growing crops. There is no lack of vacant Government lands almost anywhere; but the charge of dryness, poor soil, or inaccessibility, causes them to be passed by until some experiment proves that the neglect was mainly owing to the plentitude of the article, and a lack of demand for it at the time. Californians are not satisfied, unfortunately, with anything less than a ranch of several thousand acres, and the result is that all but a few continue to pursue the miner's phantom of luck too often, without realizing anything. Ranch lands, or speculative tracts that cannot be bought by subdivision, are always open to purchase by a combination of individuals into homestead, irrigation, reclamation, or joint-producing and manufacturing companies, the formation of which is highly to be recommended, as almost certain to be of profit to those who are able to suggest and carry out any project of the kind.

NORTHEASTERN CALIFORNIA.—As one of the *five* railroad surveying parties now on the Oregon extension of the C. P. R. R. Co's operations has taken the route via Pitt river and Klamath lakes, we give the following description of the geography and resources of that country from the report in the Yreka *Union* of Davidson, White and others of Scott Valley, who have recently returned from an exploring trip to Big Valley. This is a very fine and an important unsettled valley, fifty miles long by thirty in width, and nearly all of a deep, rich alluvial soil. Running into it are numerous creeks, along which are a succession of fine valleys, adjacent to timber, and having fine stock ranges in the hills behind. Similar valleys, though generally smaller, are found farther on, in the Goose lake, Klamath lake and Lost river country, which are valuable for stock and grain even without the market facilities that may be brought about by a railroad.

RAISING HORSES.—Notwithstanding the abundance of horses and the cheapness of pasturage in California, says the *Alta*, we pay tribute for horses to Oregon. We have 220,000 horses and mules, about two for every voter, on an average, and still we must import more. The reason is that our farmers and rancheros do not understand what is wanted. They have large herds of California horses for which there is no demand, and they make no effort to get good Black Hawk and thoroughbred horses for carriage use, or Clydesdale for heavy city work. The mustang is an excellent animal in his place. For the general purposes of the ranchero, he is equal, if not preferable, to any other stock; but he lacks beauty, weight and strength, as compared with other varieties. While the ordinary horse will command from $50 to $60 only, animals of finer blood will bring from $200 to $500 and upwards. It costs but a trifle more to raise a good horse than it does to raise a poor one. Too little attention is paid to this fact by our California stock growers.

THE ALASKA FUR TRADE.—The steamer Constantine arrived a few days since from Sitka, via Victoria, with about $12,000 worth of skins from the fur-bearing animals of Alaska, such as foxes, mink, etc.

There is an apparent infraction of the law in this case in the killing of the fur-bearing animals, outside of the "regulations" provided therefor. The same parties recently received a similar lot by another vessel, taken under the same circumstances. Both shipments are in custody of the law, awaiting a decision of the matter.

OUR COAST FISHERIES.—It is suggested that bringing the large fish of our southern coast alive to this city in smacks, and the curing of herrings, sardines and anchovies, which abound in our bays, might be made a profitable occupation. The two last named varieties of fish are imported in jars and cans, and sell from twenty-five cents to one dollar per pound; and there is no reason why they could not be preserved here in a manner equal to the best from Europe.

SHEEP RAISING IN OREGON.—It is estimated that not less than 40,000 sheep have been purchased in Marion, Linn and Benton counties (Willamette Valley), Oregon, and driven to other parts—chiefly to California—during the past spring. Ten thousand were recently driven away in one drove.

GROWTH AND VALUE OF FOREST TREES.—Sixteen years ago four locust trees, small saplings, were planted in Sacramento. Recently they were cut down. From their trunks twenty-nine wagon hubs were made, and from the remaining portions of the trees four cords of firewood were made.

IMMIGRATION.—Over 25,000 emigrants left Liverpool for the United States during the month of May.

"THE TYRANNY OF LABOR."—Thirty years ago, the practice of hardening needles in oil instead of water, was revived in Birmingham. Needles hardened in water were generally made crooked in the process, and this circumstance gave employment to a considerable number of "straighteners." The oil-hardened needles were invariably straight, and thus a large section of local craftsmen found, like Othello, their occupation gone. A determined volley of abuse was poured on the unfortunate reviver of this process. He was several times mobbed, and ultimately driven from the town.—*The Engineer.*

THE glittering opal which beauty wears as an ornament is only flint and water.

GEO. E. ROGERS,
(Successor to O. W. Bell.)
ASSAYER,
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J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qr10pnr

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Diamond Grit Grindstones,
Warranted of Uniform Texture,
TWICE AS STRONG AND WILL CUT AT LEAST TEN TIMES AS FAST AS THE BEST NATURAL STONES.

We manufacture the following qualities, viz:
"Hard," for Machinists, etc.
"Medium," for General Use.
"Soft," for Wood Workers, Etc.,
Diameters, 4 to 70 inches; thickness, ¼ inch to 12 inches; and any fineness required.

Solid Emery Wheels and Sharpening Stones.
Of all forms and materials.
These Stones are fast superseding the natural ones in England, the tests made there showing them to cut about fifty (50) times as fast as the Newcastle, and entirely free from flaws, and hard and soft spots.

☞Grindstones, with Frames, Iron Troughs, Shafts and Treadles, ready to set up in working order, for sale a wholesale or retail.

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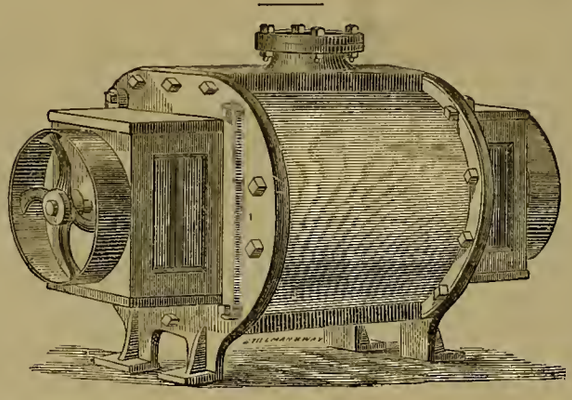
PUBLISHERS MINING AND SCIENTIFIC PRESS.

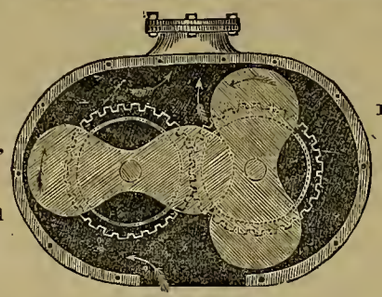
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.
MANUFACTURED BY KEEP & BARGION,
At the Globe Iron Works, Stockton, California.

Awarded the First Premium at the Paris Exposition,



Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

ADAPTED FOR Smelting, Foundry, Mining and Steamships.



REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers, High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.

For circulars and further information, address
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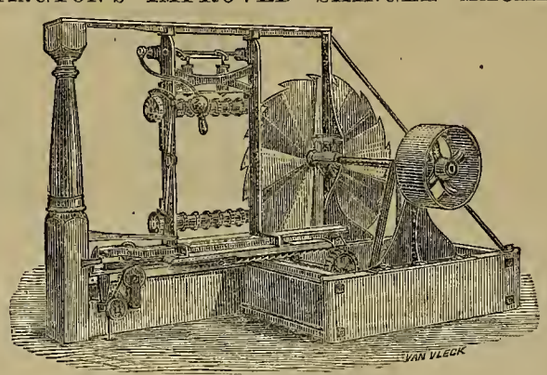

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Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of
Chemistry, Assaying and Metallurgy,
That I am prepared to teach all the above branches in less time than in any European School.
I also undertake to assay and work any kind of ore, or mineral substances.
For terms, apply to JOS. MOSHEIMER,
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The correctness of which is guaranteed in every respect. All kinds of Ore and Mineral tested, assayed and analyzed in the most satisfactory manner.
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Formerly Chemical Examiner in the U. S. Patent Office may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and Investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞Written communications preferred.

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More than 100,000 Persons

BEAR TESTIMONY TO THE

Wonderful Curative Effects of

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"The Life of all Flesh is the Blood thereof."—Purify the Blood and the health of the whole system will follow. It a gentle Purgative as well as a Tonic.

These Bitters are not a gilded pill, to delight the eye or please the fancy, but a medical preparation, composed of the best vegetable ingredients known.

CALIFORNIA

VINEGAR BITTERS,

THE GREAT BLOOD PURIFIER.

Cleanse the vitiated blood whenever you find its impurities bursting through the skin in Pimples, Eruptions, or Sores; cleanse it when you find it obstructed or sluggish in the veins; cleanse it when it is foul, and your feelings will tell you when. Keep the blood healthy, and all will be well.

Dyspepsia or Indigestion.

Headache, Pain in the Shoulders, Coughs, Tightness of the Chest, Dizziness, Sour Eructations of the Stomach, Bad Taste in the Mouth, Bilious Attacks, Palpitation of the Heart, Inflammation of the Lungs, Copious Discharges of Urine, Pain in the Regions of the Kidneys, and a hundred other painful symptoms are the offspring of this Dyspepsia. For these troubles take Dr. Walker's Vinegar Bitters, and quickly all painful symptoms will disappear.

It Is a Gentle Purgative as well as a Tonic,

Possessing, also, the peculiar merit of acting as a powerful agent in relieving Congestion or Inflammation of the Liver, and all the Visceral Organs. In this respect, these Bitters have no equal.

For Female Complaints,

Whether in the young or old, married or single, at the dawn of womanhood or the turn of life, these Tonic Bitters display so decided an influence that a marked improvement is soon perceptible in the health of the patient.

For Inflammatory and Chronic Rheumatism and Gout,

These Bitters have been most successful. They are caused by vitiated blood, which is generally produced by derangement of the digestive organs.

PIN, TAPE and other WORMS, lurking in the system of so many thousands on this Coast are effectually destroyed and removed.

Morbid Condition of the Blood.

This is the fruitful source of many diseases, such as Tetter or Salt Rheum, Ringworm Boils, Carbuncles, Sores, Ulcers, Pimples, and Eruptions of all kinds. For the cure of these various affections, which are mere symptoms of a morbid condition of the blood, medical science and skill have not, as yet, discovered a Blood Purifier equal to Walker's Vinegar Bitters.

Diseases of the Blood, Liver, Kidneys, and Bladder.

It thoroughly eradicates every kind of humor and bad taint, and restores the entire system to a healthy condition. It is perfectly harmless, never producing the slightest injury.

Bilious Remittent and Intermittent Fevers,

Which are so prevalent in the Valleys of the Pacific Coast, especially those of the Sacramento, San Joaquin and their tributaries, during the Summer and Autumn, and especially during seasons of unusual heat and dryness, are invariably accompanied with extensive derangements of the stomach and liver, and other abdominal viscera. There are always more or less obstructions of the liver, a weakness and irritable state of the stomach, and great torpor of the bowels, being clogged up with vitiated accumulations. In their treatment, a purgative, exerting a powerful influence upon these various organs, is essentially necessary. There is no cathartic for this purpose equal to Dr. J. Walker's Vinegar Bitters, as they will speedily remove the dark-colored viscid matter with which the bowels are loaded, at the same time stimulating the secretions of the liver and restoring the healthy functions of the digestive organs generally. The universal popularity of this valuable remedy in regions subject to miasmatic influences, is sufficient evidence of its power as a remedy in such diseases.

For full directions read carefully the circular around each bottle.

For sale by all druggists and dealers.

R. H. McDONALD & CO.,

Druggists and Agents, Corner Pine and Sansome streets, San Francisco, Cal., and Sacramento, Cal; and 34 Platt street, New York.

Liberality of Physicians.

[From the Pacific Medical and Surgical Journal.]

It has always been said that physicians would disparage any remedy, however valuable, which they did not originate themselves. This has been disproved by their liberal course towards J. WALKER'S VINEGAR BITTERS, they well knowing them to be an invaluable preparation manufactured from the native herbs and roots heretofore known only to the Spaniards and Indians of California. Many of the profession, after having tested their virtues, have adopted them into general use in their practice, thereby showing a willingness, commendable on their part, to countenance articles that have intrinsic merit. This is highly creditable to the learned profession of California, and contradicts the prevalent notion of their opposition to remedies based on interest to discard them. We have always had confidence in the honorable motives of our medical men, and are glad to find it sustained by the liberal welcome they accord to Dr. J. WALKER'S INIMITABLE VINEGAR BITTERS, even though they are not ordered in the books, but are made known to the public through the newspapers, and other mediums of advertising.

Pure Blood and Pure Water.

Pure blood may be compared to pure water and impure blood to muddy water. If you pass muddy water through muslin, you soil it; continue the process, and you cover it with thick mud. Blood is the great circulating medium, passing through all parts of the body, and, if impure, it leaves its impurities behind, which breed sickness and death. Medical science has utterly failed hitherto to furnish a medical agent for renovating and purifying the blood equal to Dr. Joseph Walker's Vinegar Bitters. They are easy in their administration, prompt in their action, and certain in their result. Their peculiar vegetable properties penetrate at once to the seat of disease, and eradicate all impure or poisonous matter from the system. Climatic changes, which so materially affect the great majority of preparations, have no effect on this remedy. It is used successfully in all climates and countries, north and south alike, and has never been known to fail in a single instance when the directions have been followed. Let those afflicted with disease try one bottle of these Bitters and it will prove a better guarantee of their merits than all we or others can say in their favor. Thousands now pronounced incurable may be saved and their lives prolonged by the use of this valuable medicine. To those who seek health we would say, there is no man, woman or child, however wasted by disease, but what may be relieved or cured by these Bitters, if their system is in a condition to receive nourishment, and the Lungs, Liver and Kidneys, and other vital organs, are not wasted beyond the process of repair.

None genuine unless signed

R. H. McDONALD & CO.,
General Agents,

And Druggists, San Francisco and Sacramento, Cal., and 34 Platt street, New York.

☞We have established a Branch Manufactory of Dr. J. Walker's Vinegar Bitters at No. 34 Platt street, New York.

DR. JOSEPH WALKER'S

VINEGAR BITTERS.

SAN FRANCISCO, Cal., Jan., 1869.

Read the following Letter from Dr. J. Walker.

READER.—Do not cast this aside with a look of contempt. If you chance to be one of the lucky few who are never ailing, preserve this and hand it to your invalid friend, that he may know the means of becoming well, hearty and vigorous, and to live to die of old age.

Four years ago I was, what I thought, "a used up man," which was also the opinion of my friends and acquaintances.

I had the Consumption, Bronchitis, Palpitation of the Heart, Piles, and Rheumatism in my Hip. My leg became paralyzed, and my whole side partially so. I was then in California, and was given up by physicians as incurable. I tried everything I thought would help me that I could find in the apothecary shops, but to no purpose. Die I thought I must.

One day I was near a camp of Indians, and found them gathering and picking herbs. I inquired what they used them for, and they told me. I then went to experiment on a compound which I perfected and commenced taking, and to my utter surprise, in three weeks was able to attend to my business, and after taking it eight months I felt better than I ever did in my life, and considered myself well. Many persons who knew my former condition were surprised when they saw how well and hearty I was, and came to me for the medicine for themselves and friends. In fact, with my small means of manufacturing, I could not supply the demand. I had to put them up in jugs, junk bottles and anything I could get, and found they produced such astonishing effects upon all diseases, that I thought it my duty to put them within the reach of all suffering humanity.

I moved to San Francisco, and commenced putting them up, calling them J. WALKER'S CALIFORNIA VINEGAR BITTERS.

I have disposed of hundreds of thousands of bottles, and, to my knowledge, not a single person who has taken them but it has helped or cured. On women the effect is magical, making the old fresh and vigorous, and giving to the young life and ambition.

Now I assert without fear of successful contradiction that there is no disease these Bitters will not cure. I know that there are hundreds that will doubt this, but to them I say, bring me the case, and if I do not cure them with my Bitters, I will forfeit $100, providing the lungs are not too far gone, or the bones not destroyed by minerals or other means. People may call me a humbug, and doctors may cry out against me, and well they may, for their occupation is gone.

In conclusion, to the afflicted let me say, give my Bitters trial, it is all I ask—they will speak for themselves.

Respectfully yours, JOSEPH WALKER.

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Saw Smithing and Repairing
ESTABLISHMENT.

Nos. 17 and 19 Fremont St., near Market,

MANUFACTURER OF

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Patent Tooth Circular Saws.

They have proved themselves to be the most durable and economical Saws in the World.

EACH SAW IS WARRANTED IN EVERY RESPECT.

Particular attention paid to construction of

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At the lowest Market Prices.

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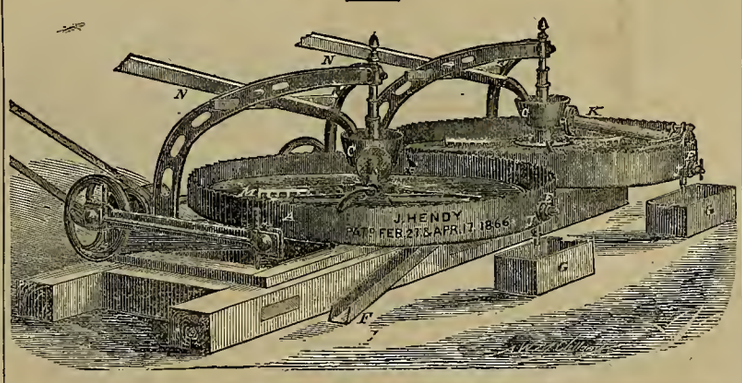
PREMIUM FOR BEST CONCENTRATOR
AWARDED BY THE
MECHANICS' INSTITUTE, 1868,
ALSO AT THE STATE FAIR FOR 1868,
To J. HENDY.



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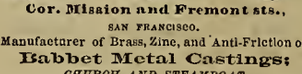
Respectfully yours, J. H. CROSSMAN, Supt. N. S. Mine.

J. HENDY, Patentee.
Office at Union Iron Works.
13v17tf

W. T. GARRATT,
City
BRASS AND BELL FOUNDER



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BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, JUNE 26, 1869.

VOLUME XVIII. Number 26.

☞For Table of Contents, see Index on last page.

Stockworks in Limestone—The Eberhardt Mine, White Pine.

The assertion has been made by many quite confidently that there are veins or systems of fissures in Treasure Hill; but it would manifestly be a very different thing to assert that these contain rich ores, or even that they contain the principal ore deposits, or anything whatever of a paying nature. There exist such things as barren veins,—and they are the rule,—in this world where all is not made of silver. Veins may be barren indeed, of all but spar or quartz, and yet have been the ore channels of adjacent wealth the most astounding in character and quantity.

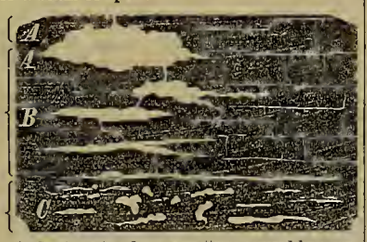
Stockworks of ores of the useful and precious metals are most interesting freaks of nature. Where nature plays pretty freaks, or lavishes herself fondly in oddities humanly-attractive, there is always hidden some beautiful, simple law, which she is thus inciting us to recognize, and to appreciate if possible in all its satisfactoriness and grandeur. It is not difficult to comprehend the straight-forward ordinary and regularly operating principles of the geology of veins; there is nothing more abstruse in that than there is in the formation of a sediment, or of an incrustation. Stockworks are apparently exceptions; but they are nothing more than modifications, arising from altered circumstances—to astonish and agreeably surprise us. How much of exceptional freshness do we find in the operation of natural laws; and is not nature kind in affording us an infinite continuation, puzzles the solving of which is not merely a pleasure but wisdom and fortune in hard cash on the spot?

The richest ore deposits of most of the metals ever known were in the form of stockworks. History, romance and the arts, cling fondly around the famous metallic silver deposits of Mexico and Peru, and their discoverers and heroes, of two centuries ago. Who knows how the Chloriders or the Eberhardters may yet float down on Time, by the side of the genial ex-hardsman and miner of Regla, the subsequent Don and Marquis that saved the finances of the Spanish State, and who left lasting to this day memorials of his wise liberality to his native mining region. Or of Pizarro, who is nothing to the world but a name of sounding syllables.

We find the Treasure Hill chlorides situated and mined as stockworks in limestone—in dolomite or magnesian limestone, properly speaking. Of all rocks known and famed for strange and wonderful things,—for caves and eyeless fish, for underground rivers, for stalactites, and pseudomorphs, for fossils, and crystals of exquisite beauty, that rival the diamond, only that they are perishable,—limestone rock stands foremost, but we associate with its phenomena not merely the queer and fanciful things of subterranean physics. It was in its caverns that our Gothic fathers sacrificed to the gods, for those were

"The blood-stained mansions of gigantic Thor."

The shelter of limestone caves is not abandoned to gloom and savage wolves entirely. "Lot dwelt in a cave, he and his two daughters." (Gene is xix.) They found themselves more cosily situated than the pillar of salt. Chloride of Silver too loves the limestone caves; so does sulphuret of lead, for the galena deposits of Illinois and Wisconsin are all comfortably nestled congregations of crystals of ore in openings and crevices in the same friendly rock, where naught could disturb them but the miners' pick when they had the misfortune to be betrayed to the light of day by seams of tale-telling spar, leading the miner from the "cap rock" down to their hiding places. Where can the chloriders have got the expression of "cap rock" from, but from some old Galenean amongst them, who comprehended the significance of a seam of spar?



A. Crevice going down, sometimes covered by a capping of a different consistency of rock.
B. Ore in irregular bodies, forming, in the aggregate, a chimney.
C. Flinty stratum, in which the ore bodies are still more irregular.

The above is a diagram of one of the most characteristic of the galena mines of the Western States, figured with dozens of others like it in Whitney's Report on the "Lead Regions of the Upper Mississippi," a work, by the by, of decided merit, and worthy of perusal by White Pine miners. It is known as Major Davenport's Diggings, near Shulsbury, Wisconsin. The vertical lines represent the seams, corresponding to the vein in other rocks, and the horizontal enlargements the bodies of ore, in openings that had been eaten out between limestone strata. The same diagram would answer in part to represent a mine reported by Mr. Stetefeldt, containing sulphuret and base metal ores, in Cortez district, as well as other mines in the limestone districts of Nevada, including some of those, perhaps, on Treasure Hill; though the details in Nevada are widely different, owing to the prevalence of intense metamorphic action which is entirely wanting in the Mississippi mining region.

Great similarity is believed to exist between this character of the Mississippi mines, and the renowned rich silver lead district of the Sierra de Gador in Spain, as described by Le Play; the ore there occurring, likewise, in irregular shapes in limestone caves. The above is adduced to illustrate the peculiarities of stockwork deposits in limestone, which are owing mainly to the character of that rock, and the reactions of subterranean waters upon carbonate of lime.

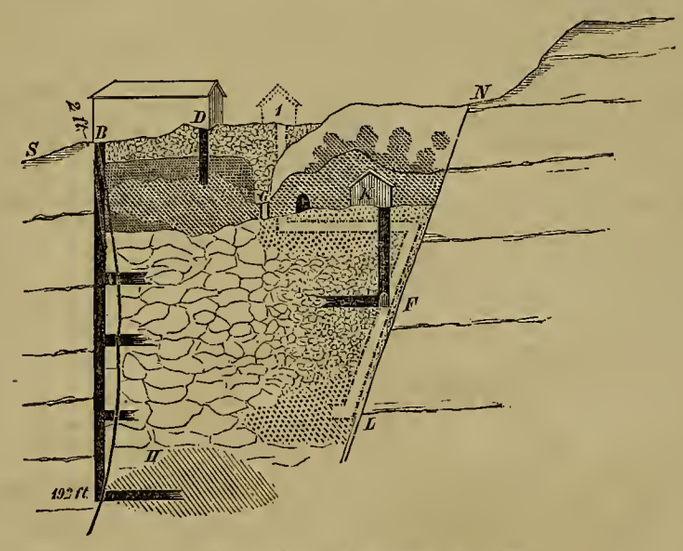


DIAGRAM OF THE EBERHARDT MINE, WHITE PINE.

Further comparisons of the world's famous lead and silver districts situated in limestone or dolomite, would be of interest in this connection; the fact being somewhat remarkable that they generally belong to a very ancient geological period—the Carboniferous or Silurian—and that the limestone is usually magnesian, while the deposits are noted for their curious exceptional nature from the rule of veins.

It is almost universally agreed by scientific men that ordinary and simple chemical reactions in the waters circulating under the surface have been the means of concentrating minerals in deposits. Silver in solution as chloride in alkaline waters permeating limestone rocks, would be precipitated by the disengagement of carbonic acid from the limestone, or by the waters becoming sour from any other cause; or by thinning, by the addition of fresh waters from the surface, of its saltiness, the alkaline ingredient which has made the chloride soluble.

It is the working miner's *business* to find out where are situated the richest deposits; he need not be jealous or fearful of ever being robbed of his prerogative of doing the necessary hard work on uncertainty. He knows by his infallible "science of knocks," that he has a rich deposit after he has found it. The thinking miner recognizes in addition the grand truth that there is in everything a reason, or at least a method, and he seeks to discover it and to work by its light. Every intelligent miner is therefore a geologist by pursuit, and would do well to acquaint himself, if possible, with such elementary truths of geology and chemical reaction as have daily and vital bearing upon his interests.

The great Eberhardt ore deposit here represented, which has yielded now about two millions of dollars' worth of chloride of silver, more than one and a half millions of which is in circulation as bullion and coin, is a stockwork, or a succession of stockworks in limestone—a brecciated mass between two fissures which may, and it would seem very probably do continue in depth into one true vein.

Webster's Unabridged, last edition, will be found well nigh sufficiently explicit to determine the matter of the "name." Our diagram illustrates the "thing" itself, representing the nature of the developments that have been made. It is a north and south section across the vein. The opposite walls are 183 feet apart, and not truly parallel by a number of degrees (in the short distance of the south wall that has been developed,) the intervening space being filled up with country rock. The latter, as found between the opposite wall fissures, is broken up to a different degree of fineness somewhat as represented in the engraving, viz., more at the surface, and for some distance down along the northern wall, than in the middle and along the southern wall, at which places the breccia is more nearly massive, and is not in any very marked manner different in appearance from the country rock found outside of the wall fissures.

Irregularly throughout this brecoia, but greatest in horizontal expansion, are found the chloride bonanzas, or stockworks, represented in the cut by shaded broken lines slanting from the left downwards to the right hand. There has been one great rich bonanza, of wonderful extent, represented by the heavier broken lines seen inclosed within the irregular boundaries, and in two parts—the open cut to the right, and the underground galleries to the left of the gate G—which has afforded the principal wealth of the Eberhardt mine; and its ore is not yet all taken out, the principal forces of the mine being at present employed in the lower levels. In the

[Continued on Page 412.]

Communications.

Written for the Mining and Scientific Press.

Fat vs. Lean.

BY A YOUTH OF ALDERMANIC PROPORTIONS.

Mr. Editor :—I am a young man just budding from youth into manhood, and possessing all the traits of character peculiar to that class of humanity. Thus far I do not differ from the generality of my race, but I am afflicted with a common and well-known disease, to which none but strong and able-bodied men are subject. I am corpnlent. Yes, a young man just tnrning six and twenty, complains of being overburdened with a superabundance of adipose matter. My friends have invariably endeavored to persuade me that I am no fatter than other men, but the growing rotundity of my figure and the tell-tale story of the weighing beam, which has mounted up, and up, until now it stands in the 200-pound notch, is more convincing that I have full grounds for complaint than all their argnments to the contrary.

Now the truth is, I don't want to be corpulent, and I want your friendly advice as to how I shall proceed to reduce my size. I want to be lithe and free in limb, and he ahle to walk the streets with an easy, graceful movement. Ducks waddle—so do fat men. People say, oh, it gives you dignity. Confound the dignity, I say, if a man has to carry an extra fifty or sixty pounds weight, in order to support it. If that is dignity, why I have no respect for it, and the sooner I get rid of mine the better. When I meet an old friend on the street, his exclamation is, "How well you are looking. You are getting quite *stout*." Not strength of muscle, certainly, as the more of this kind of strength I accumulate, the harder work I have to carry it. Why, sir, I would rather have the phthisic, neuralgia, tooth-ache, worms, or any other of the numerous plagues which torment the alender man, than be afflicted with this everlasting load of fat, which only needs to be incorporated with the necessary quantity of alkali to couvert it into a batch of No. 1 soap. Sympathizing persons say, "Chew tobacco, or smoke, and your size will decrease. Now, Mr. Editor, I know that I am not the keenest person in the world, but I think I detect in this recommendation a bit of aarcasm which said sympathizing persons wish to throw in my path. The fact is, I do chew tobacco,—indeed, I have almost converted myself into a regular tobacco-worm; but that fat keeps accumulating. So tobacco won't do. Another says, "try Banting, and you surely will gain your highest ambition, and that shortly. Well, that will do very well for persons who are inclined that way, which I decidedly am not. I recollect in early daya it was the custom of aome old fossils who had played themselves out before the public, to go into retreat,—hermits I believe they called them. Now I hope my advisers do not wish me to make a hermit of myself, and abstain from all the sweet and delicious eatables that I see others enjoying with suoh gusto. This will not do, especially in San Francisco, where a walk through our markets would cause a man, who thus proscribea himself, to feel indeed like the rich man when he saw Lazarus across the abyss.

Aa for exercise, that is entirely outof the question in my present condition of flesh; besides, everybody knowa that exercise creates an appctite, in the satisfying of which more fat is created.

Now, Mr. Editor, I see that your paper is run in the interest of inventors, and what I want ia, that you ahould aet some of your inventive geniuses to work to get up something that will reduce fatty accumulations in the human system, without the necessity of putting the patient through a atarvation process. The person who would give to the world snch an antidote, would secure to himself the everlasting thanks of our most worthy and respected fat fellow citizens. Lambert.

[We cannot recommend anything better than Banting; but do not doubt that ingenuity aet to work could hit upon some method that would accomplish our correapondent'a purpose,—more effectually, perhaps, than agreeably, if he were not too fastidious.—Ed.]

Written for the Mining and Scientific Press.

Tin Ore Concentration.

Editors Press :—A very interesting experiment having heen made the other day at Messrs. Dwyer & Storm's, South Point, I beg to furnish yon with the details, in the hope that some of your readers may possibly derive information from them, which may he of value to millmen or to those engaged in the dressing or concentration of ores.

The San Jacinto Tin Mining Company, operating in San Bernardino County, about sixty miles N. E. from Los Angeles on the Butterfield road, have heen for some time making experiments on different kinds of concentrators for dressing the tin ores, which they have, from time to time, extracted and forwarded to this city for treatment, but without attaining results sufficiently satisfactory to the company.

A lot of 2,000 pounds of the ore was delivered by the company's agent on Monday last, to Mr. Hungerford, for treatment in his improved concentrator, with a view of comparing its results with those obtained from the Cornish buddle and other sulphuret saving machiues. The average assay of the ore iu Mr. Hungerford's possession gave a yield of 25 per cent. of metal, contained chiefly in the red oxide of tin. The clean-up of the conceutrator, at the expiration of two hours, showed 1,315 pounds of concentrated ore, yielding by assay 6 per cent. of metallic tin. Two Cornish gentlemen who were present, were much astonished at the result ohtained, pronouncing it supsrior to the work done by the improved buddles now in use in Cornwall.

Where concentrators can be had so low and are easily transported and not liable to get out of order, with common care I fancy that fine gold, amalgam, and auriferous sulphurets should no longer be found in the tailings of our quartz mills.

W. G. Kelly, M. E.,
Late Supt. N. Y. and Idaho G. & S. M. Co.
San Francisco, June 16th, 1869.

The Wonderful Clock of the Day.

"The celebrated clock of Strasbourg is put into the shade hy that now exhibiting in Paris for the Cathedral of Beauvais. Forty thousand francs was the sum originally subscribed for this clock, and for the last four yeara ten clockmakers and twenty assistants have bcen at work on it. It has cost 100,000 francs more than the origiual estimate—has fourteen different movements, and 90,000 distinct pieces of machinery. The case is thirty-three feet high, in carved oak, over fifteen feet broad, and nearly nine feet in depth. At each hour a figure of Providence, snrmounting the clock, makes a gesture, and numerous saints appear at windows, apparently listening to the crowing of a cock. The principal of the fifty dials has a figure of Christ in euamel upon copper, and ahove and surrouuding this are the twelve apostles, also in enamel. The pendulum weighs nearly 200 pounds. The machinery must be wound up every eight days. Not only doos the clock show the hours, and chime each quarter, but there are dials showing the days of the week, the motions of the planets, the rising and setting of the sun, the hours in the different chief cities of the world, the seasons, the zodiacal signs, the length of each day and night, the equation of time, datea, saints' days, the changes of the moon, tidc, solstices, movahle feasts, the age of the world, leap years, longitudes and latitudes, eclipses, and every century that expiros."

Watering Railroad Stock.—Twenty-eight American railroads have been named, with an aggregate stock in 1867, of $287,000,000, which in two years has been increased by "watering," to $400,000,000. The nice little sum of $113,000,000 has thus been "made out of nothing." This heats San Francisco "wild cat," and all the milkmen of the age.

New Orleans, since the war, has been one of the most prosperous cities in the Union. She has built fully 6,000 houses, and is adding 10 per cent. a year to her population. San Francisco is doing no better.

Familiar Science.

Teeth and their Decay.

Civilization makes sad work with our teeth. Savages and people who live on very plain food are rarely troubled with defective ones. The foundation for sound teeth must be laid in early life. Bread made from unbolted whcaten flour furnishes a most excellent pabulum for them, hy rsason of the abundance of lime which it contains. Butter also coutains a good proportion of lime, and hence those who eat freely of it secure a good amount of material for building up their teeth. Children are generally lovers of bread and butter; no food can be healthier for them, and the nearer the approach to Graham bread, the better. The lime in both flour and butter occurs as a phosphate of lime. Hot drinks and concentrated acids are deleterions to the testh; the latter act directly upon the lime in their composition, and tend to crumble them down. This disintegrating action is sometimes pretty sensihly felt, hy the teeth being "set on edge," when we take anything particularly sour into the mouth. That peculiar sensation is produced by the acid eating its way into the teeth, with an activity which would soon completely destroy them, if continued.

Sugar has generally heen placed under a ban for its supposed injury to testh. Those who thus regard it point to the employés in sugar refineries, who are constantly tasting of the sugar, and who generally lose their teeth, from natural decay, within a few years. On the other hand, we are as often cited to those engaged on sugar plantations, where there is still more "tasting," but where there is very little indication of dental decay.

Again, the strongest solution of refined sugar has no action upon teeth, after extracted, even whsn allowed to remain therein for months; but wherever a very small quantity of lime or alkali is added to the solution, disintegration soon takes place. This latter circumstance explains the oontradictory nature of the facts connected with the plantation and refinery. Lime is always more or less employed in refining sugar, and the decay of teeth from "tasting" in the refinery is undoubtedly due to its presence during the process of refining. Hence the inferior varieties of sugars are injurions to the teeth, while pure white sugar is perfectly harmless. Confectionery is often more or less adulturated with lime; hence the damage to teeth which is somctimes attributed to that source.

Pure cane juice and pure refined sugar will nevcr injure the tecth. Neithor will pure honey, or the juices of such fruits aa contain a large proportion of sugar, such as strawberries, plums, etc.; but very sour apples, or any other excessively sour fruit is bad for reasons already given.

Teeth are made for grinding grain, or some similar work, and with a plenty of such work, proper diet, and good general health, they wonld never decay, except from extreme old age. They suffer when they have nothing to do. When a griuder is removed, the opposing teeth, through lack of something to press against, will generally be pushed forward into the cavity, until it becomes loosened, and finally lost, perhapa without decay. Teeth ofton prematurely decay from a faulty structure—porous or fragile—a structure marked by a chalky appearance, and generally due to bad health or improper food. No amount or quality of dentrifice will ever give the pearly whitenëss, so much admired, to such teeth. Acids and impure swcets act more readily upou such teeth, than upon those which are covered with a pure enamel.

To Renovate Black Silk.—Rub the silk all over on the right side with a solution of ammonia and water (two teaspoonfuls of powdered ammonia to quarter of a pint of warm water), and smooth it on the wrong side with a moderately hot iron, and the silk will regain a bright black appearance.

How Rain is Produced.

Where does the rain come from? You answer, "From the clouds." But where do the clouds come from? You may think the wind hlows them over you. But if it hlows clouds over you from somewhere else, it also hlows them *from* over you to other places. The fact is, the water of the clouds is just as much over you on a clsar day as on a cloudy or rainy day. On a fair day when no clouds are seen, the water is divided up into such small particles that it does not ohstruct the sun's light, and so you *see* no clouds or water. A change of temperature in the atmosphere, as when a warmer and colder current of air meet, causes the small particles of water to unite in pairs, and the pairs unite, and these quadruple drops unite, and so on until hundreds or thousands of the small invisible particles unite in one, and even then that one may be many hnndred times smaller than a pin's head. A mass of these combined drops which are still small enough to float in the air, reflects, refracts, or bsnds out of their course so many of the sun's rays that they stop and often darken its light. It is thus that clonds gather in a clear sky. When a sufficient numher of drops unite to form one too heavy to float in the air, it begins to fall. It meets and unites with many others in falling, and often so many unite that great rain drops are formed by the time they get to the ground. Each large drop is made up of thousands, perhaps millions of the small drops that float in the unseen air in a clear sky.

The Philosophy of the Aquarium.

C. B. Brigham, in the *American Naturalist*, thns describes the manner in which the balance of forces in a self-supporting aquarium are maintained: "The element in water which the fishes live on by breathing is free oxygen, which, as the watsr is fanned through the gills or lungs of the fish, comes in contact with the walls of its vessels, and arterializes the blood; all water contains a certain amount of this oxygen, sufficient to keep a fish alive for a short time, but if no means are taken to create a fresh supply, it will become exhausted sooner or later, and an escape of oarbouic acid will render the water poisonous to the fish. In plants, on the other hand, we have an agent takiug up thc carbonio acid in the water, and resolving it into carbon and oxygen, the former of which it converts into its substance, while it expels the latter from every part of its tissue, especially from the leaves in the form of minute buhhles, plainly aeen in healthy planta, and often compared to drops of quicksilver in appearance. It is true that plants absorb oxygen also as fishes do, but they give out so much more than they absorb that this is of slight acconnt."

Amount of Water in the Atmosphere. Did you ever think how much water ia in the air, floating nnseen? It generally amounts to nearly three gallons above each foot of the earth's surface, and often much more. As new vapor is always rising, the amonnt of rain that falls during a year is very large. At one place in the Himalaya mountains as many as 300 inches deep falla in twelve months—or enough if it all fell at once to cover the land with water twenty-five feet deep. In San Francisco 35 to 43 inches fall annually. In the Sierra Nevada the annual fall is from five to six feet.

Dried Scent to Put into Satchels, or Little Bags, for Drawers.—Half pound of lavender flowers, half ounce of dried thyme, half onnce of dried mint, quarter ounce of cloves, quarter ounce of caraway seeds, one ounce of common salt. The lavender flowers mnst he ruhbed from the stalk, the thyme and mint reduced to powder, and the cloves and caraway aeeds hruised in a mortar. The whole should then he mixed with the salt, which must be well dried before it is used. When the ingredients have heen thoroughly mixed, the compound may he put into silk or muslin hags for use.

Cause and Effect.—It is often remarked that, at times, a candle or lamp, when first lighted, will "spirit" or "sputter;" when on being lighted at another time, with the same wick, and apparently under the same circumstances, no disturbance in the blaze is noticed. The phenomenon observed in the first instance is due to the fact that the air is overcharged with moisture, which has penetrated the wick, and where (being formed into steam) it expands suddenly, producing a series of little explosions.

Mechanical Progress.

Drills.—Capt. Clariaoal, of the Engineers' School at Metz, reports experiments npoa drills of different forms and sizes, and upon iroa of different hardness. We give from *Van Nostrand's Magazine*, a portioa of his coaclusions:

The power required by a flat drill 0.025 meter in diamotor, to boro a bole in the direction of the fiber, is about 1.25 times as great as that required by a ceater bit of similar diamster operating nnder similar circnmstances.

The power required by a flat drill, 0.025 meter in diameter to bore across the fibers is about 1.4 as much as that required nndsr similar circumstances by a ceuter bit.

When the diamoter of the drills is 0.015 meter, the above qnaatities become 1.6 and 1.8 respectively, which seems to show that small drills reqnire a comparatively greater power than large ones. When the diameter of the drills is 0.008 meter, the ahove proportion becomes 1.52 which corroborates the above.

The average advisable circumfereace speed of drills is 0.12 meter per second in wrought iron, 0.06 meter in cast iron, and 0.15 to 0.18 in bronzs (gun metal). When theso velocities are exceedcd the drill is apt to become soft, and wheu they are not reached the work is not economized.

A comparison of results obtained with borers of both kiads of the same diameter, (0.25) meter), shows that the power required to drive a flat drill in cast iron is 2.6 times as much as that reqnired to drive a center bit.

Experiments on hard wbite cast iron, showed that the power reqnired to drill sucb iron was very nearly double tbat stated for gray cast iron.

Tbe experimeats made on steel showed that, nnder similar circumstances, more power was reqnired to drill shear or soft steel than to drill hard cast steel, and that flat drills increased the power necessary by at least one-third.

Sensitive Flame Burglar Alarm.—An ingenious application of the sensitive flames has heen made by Barrett. A copper rod supports a metallic ribhon, composed of two or more thin leaves of metals which expand nneqnally when heated. A few inches from it is a sensitive flame. As long as tbere is no noise this hurns quietly; but a shrill whistle, or any disturhance, will cause it to diminish one-half in length and to spread out wide in the middle, like the wings of a bird. It thus heats tbe metallic rihhon, which expands nneqnally, bends toward one side, comes in contact with a fine platinum wire attached to a galvanic battery, connects the poles, and rings a hell. Such a light as this in a banking honse wonld betray to the watchman an attempt at robbery, and the inventor proposes to use it as a burglar alarm.

Silverware Proteoted.—The *Mechanics' Magazine* says tbe sulphur compounds witb which the eity atmosphere is impregnated, cause the loss of thousands of pounds worth of silverware annually, in the form of dirt from the frequent cleaning made necessary therehy. But Herr Strolberger, of Munich, has after all sorts of experiments found a remedy. He warms the article, and hrusbes it over carefully with a thin collodion diluted with alcohol. Once is enongb. Silver goods are kept bright for any length of time, while those in the same neighhorhood soon become perfectly black.

Paddle vs. Screw.—Tho London *Artizan* says that a paddle steamer, recently altered at Greenock, was of 350-horse power, with cargo space for 400 tons of goode. Her cousnmption of fuel was 24 tons a day and her speed 7¼ knots. She was converted into a screw steamer, and fitted with a twin propeller, and the consequence has been that with engines of 75-horse power she steams at the rate of 10¼ knots, and carries 800 tons of cargo, with a daily consumption of ahout eight tons of coal ouly.

The New York *Tribune* says that the steamer Lafayette just had her machinery altered from paddle-wheel to propeller, at a considerable outlay, thereby increasing her speed two knots an hour, giviug much more space for cargo, and diminishing her daily consumptiou of coal by 40 tons.

Traction Engines.

Engineering says that the traction-engine system has oa the whole proved a coapleto failure; and that if it ever comes iato geaeral use, a radical change must be made in the arrangement of the entiro machine as compared with those now in use. Wo quote: "Iastead of the portable engiae, we must take the railway locomotive as our model. As the road to be traversed is rongh, and macbiuery does not like rough roads, the two must be kept apart as far as possible. Thersfore, iustead of mouating a boiler balf full of water on rigid wheels without the interposition of springs, and a heavy, qnick running engine and fly-wheol on top of the boiler, we mnst provide a rectangular frame of iron or of oak between iron plates. The frame must be supported on wbeols—preferably of wood—throngh the intervention not only of spriags, bnt of perfectly efficient and elastie springs, with india-rubber buffing pieces to take up the last trace of jar and vihration. Next we have to provide a crank-shaft running in brasses fixed in wrought-iron cheeks—no cast iron except that in the cylinders, aad a little in the gearing should be allowed in a traction engine—wbich crank-shaft must be driven by a pair of pistons, in order to get rid almost or altogether of the fly-wheel—an unaeeessary and objectionable excrescence, which should bave no more place on a traction engine tban it has on a locomotive."

Something New in Clocks.—*Engineering* describes a turret clock just made in Edinhurgh for Bombay, which has a dial 8½ feet in diameter, and a center second hand. This last item is especially notable in connection witb the size of the clock. It has heen considered impracticahle heretofore, to regulate the motion of so long a second hand. The momentum wbich it would have acquired at the point in passing through a space of five inches—the distance between one second mark and another—would have caused the hand to sway backwards and forwards during tbe whole second. Besides, the strain upon the machinery from such a motion would have been great. This difficulty has heen overcome hy a series of sixty levers, so arraaged that the second hand rests in one of them at each beat; the point of the hand being so contrived that when it rests upon a lever it is detained there, and can get neither backward nor forward until the clockwork removes the lever out of the way.

Lubricator for Cylinders.—Ordinary lubricators are liahle to decompose at high temperatures, leaving hehind a thick viscid coatiag which, in cylinders, iaterferes considerably with the motion. Ericsson's hot-air engine is especially difficult to lubricate, from this cause. The use of *melene* is advised for this purpose; it heing a substance obtained from the paraffines, insoluble in water, soluhle in the fixed oils, volatile without decomposition, not boiliag under 370°, of the consistency of wax at ordinary temperatures, and floating on the surface of cold water. It is cheap enough to he used on a large scale, and preserves from oxidation and adhesion.

The Fan Steam Engine.—This engine is analagous in its principle and action toan inward-flow (water) turhine. It consists of an outer annular casing which receives steam from tbe boiler and discharges from its inner surface in tangential jets; anianer cylinder casing having openings at the center for the discharge of waste steam; and a fan consistiug of scoop-shaped blades radiating from a shaft, which rotates within the inner casing, and is driven hy the jets of tangential steam. An engine of this kind has heen successfully used in a sawmill, and was considered equal to an ordinary high-pressure engine.—*Artisan.*

Metallic Springs.—In metallic springs it is found that the elastic power resides in great measure near the surface. A well-tempered har spring will lose much of its elastic strength by filiag off a very thin scale from its surface. The doubling of the thickness, the width remaining constant, will not give douhle power, while doubling the width will uearly douhle the elastic power if the thickuess he the same. *Scientific American.*

Scientific Progress.

Invisible Light.

Some years since, iu a photograph taken at Berlin of a bronze statue, a black streak appeared, in the negativo, at tbe tip of a laace held upright hy the figuro, and at two otber poiats. Prof. Dovo, who was applied to for an explanation of this extraordiuary circumstanee, came to the conclusion that tbose markiags might be dne to electrical discharges going on from prominent points of the figure at the time the pieture was taken, and which, though invisible to an observer, would nevertheless, by reasou of the actinie power of electrio light, produce an impression on the photographie light. Prof. Rood, of Columbia College, N. Y., in a series of ingenious experiments, proved that discharges entirely invisible to the observer in daylight, might thus produce images of tbemselves—the photographie plate being relatively more sensitive to these impressions than the human eye.

Geissler tubss,—glass tubes exhausted, aad sealed up, with platinum wires in their extremities, were employed. When the electric discharge from an indnction coil was made to pass through these, it developed a delicate purple and blue, or sometimes pink light, which, though visible in the dark, was not perceptible in daylight. A photograph, however, of these tuhes, taken in daylight, showed as well developed an image of the interior light, or discharge, as of the tube itself. Again,—if a spectrum is produced with sunlight, hy means of prisms and lenses of quartz, we shall see all the rainbow tints, crossed by the black lines, exactly as with the prisms and lenses of glass; but if we allow this spectrum to fall upon a collodion plate, the picture produced, besides showing the visible bands in the blue, indigo and violet parts of the spectrum, will give an equally distinet drawing of similar bands or lines, reaching to a great distance heyond, what, to the eye, is the end of the luminous stripe. This part of the picture may be regarded as a photograph, not of *light*, but of *darkness*. It may be made appreciable to tbe eye *indirectly*, if it is allowed to fall on a screen made of some fluorescent substance, as for example, a solution of quinine, wbich absorhs the very rapid actinic rays and emits them as luminous ones. The *Journal of the Franklin Institute* gives a cut of the photograph of the extra-violet spectrum.

Diatoms for Microscopists.—The *American Naturalist* thus alludes to Möller's new side plates for the microscope: "Möller of Wedel, Holstein, has accomplished the most wonderful feat of modern manipulation, with tbe exception, perhaps, of Nohert's ruled lines. The slides he prepares have been described to us in tbe letter of a correspondent, wbo is tbe fortunate possessor of two. "The diatoms (four hundred species in all), arranged by genera and species, form groups of one hundred, set with the most perfect regularity and symmetry, aad the whole occupies a space of about three-sixteenths of an inch. Each slide is a cabinet,—a collection in itself,—and is accompanied by a catalogue of its contents. This one is called the 'Type Plate,' and cost $40. The 'Test Plate,' from tbe same operator, contains, set in one row with the most perfect regularity, twenty tests, hy order of difficulty."

Organic Matter in the Atmosphere. The presence of spores in a miasmatic atmosphere may be determined hy means of sulphuric acid, which frees carbon from its combinations in organic substances. If a watchglass containing strong sulphuric acid be exposed to an atmosphere containing such suhstances, it will after a time become blackened by them. This occurs much more readily in malarial districts than in other places.

Prof. Cope on Genera.

The origin of *genera*, according to the idea of Prof. Cope, is in the retardation and accceleration of the developmsut of individuals, at the time whsn development is going on most rapidly; that is, at the approach of mstnrity. The origin of *species*, is in natnral sslection, and tbe gradual modification of tbe preëxisting species. We quote a few sentences from Prof. C's new work upon the subject, which will serve to give an idea of his manner of treating it:

"As one or more periods in the life of every species is characterized by a greater rapidity of development (or metamorphosis) than the remainder, so in proportion to the approximation of sneh a period and the epoch of maturity or reproduction, is the offspring liable to variation. During the periods corresponding to those between the rapid mstamorphosis, the characters of the geaus would be preserved unaltered, though the period of ohange would be ever approachiug." "As the development of the individual, so the development of the genus. We may add, so the development of the whole of organized heings." "The nearest species of adjacent genera are more nearly allied in specific characters than the most diverse species of the same genus." "Like varieties of distinct species are much nearer in shape and appearance than unlike varieties of tbe same essential species."

Two of the six propositions with which he concludes, are as follows:

"Species have developed from preëxistent species by an inherent tendency to variation, and have been preserved in given directions and repressed in others, hy the operation of the law of Natural Selection.

Genera have been produced by a system of retardation or acceleration in the development of individuals; the former on pre-established, the latter on preconceived lines of direction. Or in other words, while nature's series have been projected in accordance with the law of acceleration and retardation, they have been limited, modified and terminated hy tbe law of natural selection, which may itself have operated in part by the samo law."

Akazgia—A New Alkaloid.—At a recent meeting of the Polytechnic Association of the American Institute, was described a new alkaloid fonnd by Dr. Frazer, of Edinhurgh, in specimens of tbe Akazgia plant brought from the west coast of Africa, and which he supposed to be a new species of Strycbnos. Akazgia is a crystalline alkaloid closely resembling strychnia, hut differing from it by being precipitated by alkaline bicarbonates. Travelers report that the natives of West Africa use Akazgia as an ordeal. A supposed sorcerer is compelled to drink an infusion of the bark of this plant and walk over small Akazgia stieks. If guilty, he tries in vain to pass the sticks and falls in convulsions, when he is beaten to death by the savages; but if innocent, the kidneys will act freely and the poison is thus eliminated. Dr. Frazer found certain twigs of the so-called Akazgia of different structure, which did not yield the new alkaloid, and it is probahle that those natives who have escaped from the ordeal, drank a decoction made from this variety.

American Association fon the Advancement of Soience.—This Association will hold its annual meetiag in Augnst next, at Salem, commeuoing on tbe 18th at ten o'clock, A. M. Microscopy will constitute a large part of the scientific matter under discussion. Every one who has a first-class instrument is requested to bring it. A large room will be specially devoted to the display of these instruments and apparatus thereto pertaining. The Association will be invited, on the first day of the session, to assist in the dedication of tbe Museum of the Peabody Academy of Science.

Organisms in the Rocks.—Dr. Jenzsch, of Gotha, who has devoted himself for some years to mieroscopic lithology, anuounces that in various kinds of crystalline and volcanic rocks he has discovered minute animal forms in prodigious numhers in a fossil condition. Among them he finds infusoria and rotiferæ intermingled with algæ, and he infers their formation in a large expanse of staguant water.

Farming and Gardening.

Rust and Smut in Wheat.

A communication appeared some days since in the *Times*, of this city, assnming to correct the *Bulletin* for pronouncing the rust "a vegetable parasite or fungus." The *Times'* correspondent says:

"The parasite is simply the *result* and not the *cause;* it being an *insect* feeding on the juices of the plant that are exuded from the ruptnred stalk, and that by exposure to the air are oxidated, or inspissated on the surface, furnisbing a delicate pabulum for the sustenance of insects, that by an inscrutable law of nature, are generated for such an exigency. When the wheat plant, in a state of maturation is exposed to unusual moisture from rain or fog, it pumps up or absorbs an excess of liquid, so that when suddenly exposed to an increase of temperature from an nnclouded sun, the liquids expand, rupture the stalk, and necessarily cause an outflow of the life blood of the plant. * * * The soaking of the seed wheat in bluestone is not designed to correct the *rust* in wheat, but to prevent the *smut*. Smut is a constitutional disease that is hereditary and tranmissible, and that, like the syphilis and other human diseases, can be corrected by proper medicaments. * * * To repeat, *rust* comes from a repletion of food and subsequent exposure; while *smut* is a constitutional disease, affecting the plant from birth to maturity, but only evincing its impurity in its ripened fruit."

The crude communication, from which we extract the above, having been quite extensively copied and commended as the true philosophy of the rust and smut in wheat, we have thought it might not be out of place to give the more commonly accepted and undoubtedly correct cause of the origin of these pests, often so destructive to the hopes of the farmer.

What are Rust and Smut.

They are in no way due to insect life, either proximate or remote—they are vegetable parasites or fnngi, similar to mildew—and no nearer related to inseots than is the latter well known fungus. Fungi, in their respiratory functions approach to the peculiarity of animal life, inasmuch as they absorb oxygen and exhale carbonic acid gas, instead of absorbing the latter and exhaling oxygen, as most plants do; and, like flesh, they contain a large amount of nitrogen. They also contain a substance, known to chemists as *fungine*—which bears a near resemblance to flesh; bnt which is an universally acknowledged vegetable principle. *Fungi* derive the carbon which entere into their sustensnce from the substances on which they grow, and not from the air, as is the case with most other plants; hence their destructive effect upon vegetation.

Mildew is a characteristic representative of this class of vegetable organisms, and is well known from its universal presence wherever dead organic matter is exposed to moisture; *but it never attacks healthy plants.* Whenever the cuticle of a leaf or the young shoot of a fruit tree or vine is fractured, then some variety of this parasite will promptly settle and take root. It will adhere to any fissure in the stock or blade of wheat or other grain, or wherever any sap of the plant has been forced to the surface.

The varieties of this plant are numerous. *Rust* and *smut* are enumerated among them. The former attacks the straw, and is eo called from its resemblance, in oolor, to the rust of iron. It exhausts the life of the plant by so destroying its juices that it ie not able to mature its seed. Smut generally attacks the grain or kernel; and usually not till after the rust has so weakened the plant that the kernel is thereby diseased and shrivelled, so as to afford proper food for the smut.

The sporulcs, or germs of rust and smut, are exceedingly minute; so very small that it is supposed they often find their way into the juices of the plant through its *stomata*—the breathing holes of the skin. This is inferred from the fact that they are often fouud growing beneath the skin when even the microscope fails to show any fracture. The skin, in such cases, is puffed out into blisters, and finally bursts. Their *usual* mode of attack, however, is through fractured portions of the plant.

What Causes Rust in Wheat.

It is a subject of reasonable inqniry to learn the manner and conditions under which these parasites make their appearance. They are usnally observed when two or more cold, wet days immediately succeed several very warm, bright and dry ones. The stomata of the plants are closed by the bright, dry days, and suddeuly opened by the succeeding wet ones, especially if the moisture commences with warm weather. If the first warm day of moisture is succeeded by a cold day, the plants are chilled while their pores are open. Their vigor is suddenly checked—the plant is sick, and the pestiferous little sporules (which are always flying about and watching for a chance) immedistely enter the neglected door and commence their work of destruction.

The worst species of rust effect a lodgment on the inner surface of the outer chaff scales of the grain, and is of an orange color. When that appears to any considerable extent, the crop is ruined, unless such appearance is immediately followed by long-continued and very dry weather. The botanical name of this plant is *uredo rabigo;* the rust which attacks the straw is called *uredo linearis*. If fair growing weather immediately succeeds the appearance of the last mentioued, the evil is usually dissipated. and a healthy green aspect of the field succeeds.

There is a kind of rust that is very general on the common berberry bush, known to botanists as *erysiphe berberides;* and many farmers at the east are in the habit of carefully grnbbing out this bush from their wheat fields, for fear of its spreading to the grain. There is no danger, however, of such an occurreuce, as it never attacks grain.

How Shall We Gnard Against these Plagues?

The question naturally arises: can we in any way guard against these pests, and if so, how? The best thing, at the start, is to do everything to secure an otherwise healthy growth; for, as we have already intimated, this pest never attacks a healthy plant any more than the common mildew will come to plague a neat and tidy houeekeeper. It is the indolent farmer and the badly-managed field that suffere most. Then let none but the hest and most healthy seed be sown—not to guard against the danger of planting these germs with the seed, and allowing the plant to take them up in its growth. That probably is never done, although it may he possible. But their presence in the plant, even under such circumstances, would most likely be harmless, unless the plant became enfeebled or its tissues broken. But there is no need for securing their presenco hy such means, for the entire atmosphere is always full of them. Millions are always floating over every acre of surface, and lodging npon all parts of the plant; when, if the conditions are favorable, they will be seen to take root. The necessity for good seed is to eecure a healthy and vigorous growth, such as will resist the insidious attacks of these pests. The land should also be in good condition. If dry, plow deep for moisture; if wet, drain; if poor, dress it up to the proper standard.

But if, notwithstanding all precautions, this pest has already made its appearance in emall force, the only thiug which remains to he done is either to dry up the juice which has got out of its proper vesels, and thereby affords a natural food for the rust; close up the pores by which the germs may be entering the wheat leaves or kill the germs themselves. We know of no better way to accomplish these ends than the sowing of wood ashes over the field, at the rate of about eight bushels to the acre. We have heard of good results therefrom. The ashes should be sown while the wheat is wet either with dew or rain. They will at least benefit the next year's crop, even if they fail to help the present. Powdered sulphur has been successfully employed ou grape vines and fruit trees, to kill the mildew *(Puccinia graminos);* and we see no reason why it might not also have equally as good au effect on the rust or smut fungi —unless it may be too expensive. The alkali of the ashes would undoubtedly kill the germs; while the effect of the sulphur would be to absorb the extravassated juices on which the rust lives, and thus starve it out, and possibly also to close up the pores of the skin of the plant, by which the rust germs may be seeking an entrauce to the diseased juices within.

Soaking the seed in a solution of blusstone, lime or salt will undouhtedly he beneficial, not in killing the germs of the rust, as snpposed, but in killing animal germs, and in otherwise promoting the growth and healthiness of the plant. Soaking in pure water is better than nothing, as by that means the poor seed, which, by prodncing unhealthy plants, invites the rust, is readily removed by being skimmed off. Stir and skim your seed until the light nnhealthy grains are all removed. Such a course will he fouud altogether preferable to either winnowing or separating.

Surprise Oats.

Can any one of the readers of the *Farmer* tell where thsse oats originated? I see that packages of them are heing sent to this State through the mail. Are they better than the *Norway* oats? Will some one that knows please answer.—*Cor. Willamette Farmer.*

The "surprise oats" originated some seven or eight years since, on the farm of Mr. Van Olinda, of Sandwich, De Kalb County, Ill. Mr. Van Olinda says that he found a single head of oats in his *wheat field* which strnck him as differing from any grain which he had ever before met with. There were but seven grains on the stalk; five of these were planted the succeeding season, and from them has originated the present supply.

The plant first oheerved, was no donbt some variety of wild oats, which had never before been snbjected to cultivation; but which, on being brought under careful culture, has been developed into a very valuabls grain. The varietiss of oats which have been observed and named, already reach about seventy in number, and are constantly increasing.

The eurprise oats present many valuable characteristics. They are described as remarkahle in size, weight and beauty—weighing nearly as much as barley—from 40 to 46 pounds to the bushel. Some of the Chicago brewers, who have tried them, say they malt excellently well; better than any other variety of oats. It is claimed that they have yielded as high as 125 hushels to the acre, on ordinary wheat land, in Illinois. They are said to be two or three weeks earlier than ordinary varieties. Two years ago Van Olinda was selling them in packages of two quarts, (tbe smallest package put up by him) at the moderate sum of $5; or $40 per bushel! We do not know how they are selling at this time; hut it appears from the above correspondence of the Willamette *Farmer*, that they are being forwarded to this State, in emall packages, by mail, which mode of transportation would indicate a pretty high price for the grain. Those who have examined them, generally pronounce favorably with regard to their value; although some speak indifferently of them. We will endeavor, next week, to make some extended remarks on the importance of the cultivation of oats in this State, and answer the fnrther query relative to the Norway oats.

Squirrels and Gophers—How to Destroy Them.

The accelerating increase of these destructive vermin is a matter of no little importance to the farmers of California. Various remedies have been proposed to get rid of these pests, but, as yet, with very little euccess. The *Bulletin*, of Thursday, in reply to a correspondent, who asks how to use phosphorus for this purpose, gives some directions which may be as dangerous to the farmer as to the squirrele. We will suggest a safer and better process, as follows:

Warm a ponnd of hog's lard, so that it will run; pour it into a bottle and add half an ouuce of phosphorus and a pint of proof whisky; then cork and immerse the same in water a little below its boiling point—say 150 degrees. Allow it to remain until the phosphorus has dissolved, (being careful to keep the water below the boiling point); then remove and agitate the bottle until its contents become intimately mixed, and forms a milky-looking fluid. Cool and pour off the spirit, and you have a fatty compound, which, after being again gently warmed, may be readily incorporated with a mixture of flour and sugar to the consistency of a stiff dongh. Make np into little pellets and place conveniently for your enemies. Being slightly Inminons and extremely palatable, they will readily partake of it to their certain death. For rats, especially, the preparation will be much more attractive by the addition of a little oil of rhodium, or oil of annise seed. Put a vessel of water near by, and the vermin will immediately go to it and generally die before they get away; thus about a house the carcasses can he easily disposed of, so that they will not constitute a nuisance.

If you fear it may be eaten by cats or other nseful animals, make a small box, with an opening in both ends, just large enough for the squirrels to enter. They will not hesitate to enter wben they can see their way out, especially with such a tempting bait before them.

A Haywood correspondent of the *Bulletin*, of last week, gave a very good method for destroying squirrels, when all other means fail, which mnst be very effective and quite unattended with danger, althongh somewhat tedious. We copy as follows:

Take a piece of cotton cloth six inches long and three inches wide, dip in coal oil, then cover the cloth on one side with fine sulphur; double the cloth lengthways and again cover it with eulphur; then roll the cloth around a sharp-pointed stick, set fire to the cloth and pnsh it down the squirrel hole as deep as possible, and immediately cover it up tight by putting—first, over it a lump of dirt, and then bank it with fine soil. After a few trials parties will discover the proper time to pnt the lighted cloth into the hole. In one case out of forty holes, but five were again opened.

Birds, Bugs and Berries.

The Boston *Journal of Chemistry* euggests that the law in Massachusetts relating to the destruction of robins and some other birds, be euspended for some three years or so. The editor says that last year he lost all his cherries, and Delaware grapes, and most of his etrawberries; and insists that all the eentimental and delightful essays upon the impolitic, as well as cruel, killing of birds by farmers and orchardists, is *humbug.* Calculations have been made somewhat in this wise: "If one robin will eat three pounds of raw worms in twenty-four hours, a sufficient number of robins would eat all the worms,—and consequently, of conrse, preserve all the fruit." Now the joke of the thing is,—he says,—that a man never finds a worm in the crop of a killed rohin in the frnit season, but does find any qnantity of cherries and strawberriee, and such like delicaciee.

Let the California fruit grower congratulate himself upon his comparative immunity from the thousand and one nnisances which destroy the hopes and the grapee of New Englanders. The evil is not yet come; and it may he long deferred by careful watching. Look out for the first caterpillar. Get "Packard on Insects,"—jnst published under the anspices of the Essex Inetitute. Acquaint yourself with the look of every insect in its every stage. Some of these you wish to preserve; they are your friends,—for they war npon the others, which are your enemiee. It ie plainly of the highest importance that yon be able to distinguish hetween these two classes. By keeping yonr eyes about you, and your friends posted, yon may succeed in keeping many of the worst of the nnisances out of the Pacific States entirely.

In regard to the birds, we may add, that for ourselves, we desire to study the snbject farther, before pronouncing a sweeping denunciation against the whole tribe. Although it may be true that during the fruit season, they feed upon choice fruit, it may also be true that some of them at least did all they could, in the earlier months, to secure for us, and for themselves, that frnit, by feeding upon the earliest germs of that piratical horde which would otherwise have destroyed it utterly. If this he so, the least we can do, in common justice, is to divide the crop with them; and thus by letting the birds aloue, kill two birds with a single stone,— *i. e.* we may gratify our kindly feelings for the "charming little sougsters," and at the same timo savo half our cherrics.

Stock Review.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, June 26, 1869.

Financial.

There is no disguising the fact that our local money market is somewhat stringent, although no difficulty is experienced in making loans for legitimate purposes on acceptable paper, at 1¼@1½ per cent. per month; but speculative designs are frowned down, their projectors being compelled to submit to harder terms. When gold took its last upward flight in New York large amounts were forwarded from here to secure the premium; but it may be doubted whether the operation was wise. It is true that merchandise was purchased and placed in this market at greatly reduced figures; but the market was bared of coin, and the stringency which succeeded exerted such a depressing effect upon business that the bulk of the goods remained on hand, while the increased rates of money more than counterbalanced any temporary advantage gained by heavy treasure shipments to realize the premium paid on gold at the East.

Although the new crops are commencing to make their appearance we learn of no concerted attempt to market them, nor does there appear to be any great demand for money to move them to the seaboard. It is generally believed that the financial pinch experienced for several weeks has gone through its worst stages. Cases of individual tightness cannot be held as indicating the actual condition of the market; but, like all news of an unpleasant character, they create more remark and produce a sense of uneasiness for which if a reason were demanded none satisfactory could be given. It is very certain that business is being done on a sounder basis, and although we learn of no very marked or noteworthy transactions, the character of that which is done is more satisfactory. At all events, we are, and have been, in a far better condition, financially and commercially, than the people at the East.

The Commissioners of the Funded Debt of the City of San Francisco have submitted their eighteenth annual report to the Board of Supervisors. From it we make the following summary:

Amount of Bonds outstanding at the date of last report, June 4th, 1868 ..... $1,189,200 00
Redeemed during the past year 600 00

Leaving outstanding on the 31st ult. $1,188,600 00

These bonds become due on the 1st of May, 1871, previous to which there will be required from the City Treasury the sum of $237,720, to meet the balance of the interest accruing upon them. Of this amount $118,800 falls due the present fiscal year. The financial operations of the Board during the past year leave a net gain to the city, after deducting all expenses, of $117,330 97.

The Sinking Fund on the 31st ultimo amounted to $1,226,349 20. It is made up of the following items, the stocks owned by the Board being set down at their cost:

Loans on Stocks and Bonds	$ 193,920 00
Loans on Real Estate	86,330 00
$219,500 S. F. 5 per cent. Bonds	120,545 50
$239,000 S. F. 7 per cent. Bonds	169,089 13
$45,000 Santa Clara County 7 per cent. Bonds	31,625 00
$11,000 Santa Cruz County 10 per cent. Bonds	10,450 00
$6,203 73 State Controller's Warranta	5,300 00
$3,000 M. R. R. Bonds (Page, Bacon & Co.)	2,464 15
Cash on deposit with Parrott & Co	13,045 21
Total	$1,232,779 99
Interest due on Loans and Investments	13,249 21
	$1,246,029 20
Less Coupons due but not presented	19,680 00
Available Sinking Fund	$1,226,349 20

Statement of receipts and disbursements, outstanding loans, etc., of the Commissioners of the Funded Debt of the City and County of San Francisco, from June 1st, 1868, to May 31st, 1869, inclusive:

Balance of cash on hand per statement of May 31, 1869		$ 11,771 90
Loans outstanding at that date		763,530 00
Stocks taken to account		340,635 98
Real estate taken to account		1,158 20
RECEIPTS—1868-69.		
City Treasurer—Requisition 1868-69	$118,920 00	
Interest	127,278 24	
Real Estate	5,045 60	
Rent of lots	1,200 00	
		252,443 94
Total		$1,369,540 02
DISBURSEMENTS.		
Interest on Bonds	$ 121,905 86	
Bonds redeemed	600 00	
Attorney's fees	2,400 00	
Salaries of the Board of Commissioners (including an amount due the Commissioners of 1857-58) clerk hire, office rent, advertising, awards of land, notarial fees, etc	13,792 97	
	$ 138,698 83	
Loans outstanding at this date, to-wit:—On Stocks and Bonds	$793,930 00	
On Real Estate	89,300 00	
Stocks taken to account	337,535 98	
Cash on hand, deposited with Parrot & Co	13,045 21	
		1,230,841 19
Total		$1,369,540 02

City Stocks.

In miscellaneous securities no sales of importance have been made during the past week. Early in the week San Francisco Gas stock realized $79 75 and Spring Valley Water $65@64 25 per share.—The par value of the stock of the California Insurance Co. has been changed from $1,000 to $100 per share, the shares now numbering 3,000 instead of 200 as heretofore. At the close, we note sales of Spring Valley Water at $64 25@64 50 per share, and California Steam Navigation at 60 (buyer 3) per cent.

The returns of our local insurance companies to the Internal Revenue department for the month of May and previously this year have been as follows, upon a currency basis of 74 cents on the dollar for the month of January, 77⅛ cents for February and March, 75½ cents for April, and 73½ cents for May:

	May.	Previously this year.	Total.
Pacific	$109,193	$383,464	$492,657
Union	41,881	183,877	225,758
Fireman's Fund	47,480	115,917	163,397
California	9,448	43,211	52,659
Merchants' Mutual Marine	28,381	103,153	131,534
Occidental	25,582	83,225	110,807
Home Mutual	12,258	54,539	66,797
Peoples'	16,895	60,701	77,596
Total	$291,118	$1,030,087	$1,321,205
Same time in 1868	156,028	670,596	826,624
Increase in 1869	$135,090	$359,491	$494,581

The above statement shows an increase of $4,003 over the receipts in April. The receipts of the several companies in May as compared with April show the following difference:

	Increase.	Decrease.
Pacific	.....	$1,199
Union	.....	6,900
Fireman's Fund	$24,536	.....
California	.....	688
Merchants' Mutual Marine	.....	7,462
Occidental	.....	1,898
Home Mutual	.....	913
People's	.....	1,653

The receipts of the city railroads for the month of May and previously this year were as follows:

	May.	Previously this year.	Total.
Omnibus	$27,456	$92,906	$120,362
North Beach & Mission	26,824	89,998	116,822
Central	19,192	60,695	79,887
Front Street, Mission & Ocean	10,849	34,037	44,886
Market Street	14,598	43,183	57,781
Potrero and Bay View	3,872	10,255	14,127
Totals	$102,601	$331,064	$433,865
Same time in 1868	86,201	292,622	378,823
Increase in 1869	$16,400	$38,442	$54,842

As compared with the total receipts in April, we find a gain of $9,496. The receipts of May as against April show the following difference:

	Increase.	Decrease.
Omnibus	$1,517	.....
North Beach and Mission	1,773	.....
Central	2,039	.....
Front Street, Mission and Ocean	1,172	.....
Market Street	2,343	.....
Potrero and Bay View	652	.....

Mining Share Market.

With regard to mining stocks, the volume of transactions has been considerably lessened; however, during the week under review, the sales partook somewhat more of a legitimate character, and were it not for the continued tightness of the money market operations would be greatly extended. The business in White Pine stocks is on the increase, and the sales now making are quite large.

In the opening remarks of an extended review of the White Pine mines for the week ending June 19th, the *Daily News* says: "In our rounds we also gathered statistics for which we have no room here, and ascertained from actual observation that Treasure Hill now employs 1,463 miners, who extract 435 tons of good milling ore daily, and that the supply of ore now lying upon the various dumps awaiting milling facilities amounts to 4,171 tons. According to milling tests of fair samples of this ore it yields under stamps from $100 to $600 per ton. We have shipped this week $65,078 63, and, with the ore on dumps and at the mills, we have about $1,500,000 left."

Gould & Curry—sold to a less extent than last week, and at declining rates. During the week ending June 21st they extracted 283 tons of ore and forwarded 373 for reduction, leaving 297 tons on hand. Most of the ore extracted was taken from below the main adit level. Stopped sinking of shaft on the 17th. The 7th station sills will be 1,162 feet and 7 inches below the top of the shaft, and together with the sump, which is 20 feet deep, makes the total depth of shaft 1,182 feet and 7 inches. At various points in the mine prospecting is carried on, and encouraging indications are constantly met with. So far for June account $31,966 in bullion has been received.

Hale & Norcross—was in the market at rather fluctuating rates, but at the close exhibited some improvement. On the 22d they were retimbering the air passage on the fifth level, from cross-cut No. 5 to its point of connection with the Chollar-Potosi works, which would be completed in a few days, and then will commence to cross-cut and explore the vein in the south half of the mine. In the upper mine the 175, Santa Fé and 300-levels are well opened, and are said to show large bodies of ore, which they are ready to remove in almost any desired quantities. During the week ending June 19th the upper works yielded 131 tons of ore, and the lower works 1,011. In the same time 1,243 tons were delivered, leaving 1,281 on hand.

Chollar-Potosi—has maintained itself quite well during the week. For the week ending June 18th we have an ore yield of 1,762 tons, viz: New Tunnel, 747; Blue Wing, 696; Croppings, 180; Potosi, 139 tons. Sample assays show averages of $132 to the ton. No change since last week in the Blue Wing and New Tunnel stopes. In the Potosi branch drift to the Grass Valley deposit considerable ore has been found as the work is carried forward. The new shaft developments show porphyry and quartz, and at the 1,100-level the drift to connect with the Hale & Norcross has been carried ten feet over the line.

Imperial—sold moderately at declining rates. On the 22d inst. the Imperial-Empire shaft was 49 feet in depth below the 1,100-level. The bottom of the shaft is in hard porphyry, with a small increase of water and no indications of ore. The drift going south is in 117 feet south of the shaft, and is running in the "east country." They are extracting about 60 tons of ore per day from the Alta mine. On the 23d forwarded $7,428 in bullion.

Amador (Cal.)—sold at $280. Datea of the 22d state that the Badger drift had been extended north some 12 feet—the ledge in this drift showing 5½ feet of ore worth $45 per ton. The new south shaft has been sunk 18 feet, carrying a vein 16 inches wide, which is gradually increasing, the ore being worth $18@20 per ton.—Ophir drift is in 379 feet.

The Telegraph in China.—The wires for the telegraph between Canton and Shanghai, is nearly ready for shipment. The line will probably be in working order during the present year. A line is already far advanced through the Mediterranean *via* India to China, which it is proposed to connect with the Canton and Shanghai. When both these lines are completed, San Francisco will be in telegraphic communication with China. A still further extension to Japan will be a matter of course.

Weekly Shareholders' Directory, for Meetings, Assessments and Dividends.

[Compiled for avary issua, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Paymout of Dividends.

ASSESSMENTS.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale
Alpha Cons, Storey co., Nev., June 5, $5	July 10	July 31
Blue Rose, White Pine, May 31, 5c	July 10	August 1
Bullion, Storey co., Nev., May 22, $10	Payable Immediately	
Brodt, White Pine, June 23, 25c	July 29	Sept. 4
Central, Storey co., Nev., June 23, $2.50	July 24	Aug 14
Cosala, Mexico, June 19, $1.25	July 30	Aug. 21
Cons. Chloride Flat, W. P., May 28, $1	July 7	July 29
Confidence, Storey co., Nev., May 4, $10	June 9	June 30
Cayuga Chief, White Pine, June 21, 10c	July 30	Aug. 10
Danay, Lyon co., Nev., May 29, $1.50	July 1	July 19
Daniel Webster, White Pine, May 7, 10c	June 10	June 30
Etna, White Pine, May 12, 10c	June 17	July 7
Edith, White Pine, May 12, 10c	June 17	July 7
Evening Star, White Pine, June 25, 10c	July 31	Aug. 21
French, White Pine, May 4, 2c	June 7	June 28
Cold Hill Q., Storey co., May 13, $20	June 18	July 9
Hopa Gravel, Nevada co., May 17, $1	June 21	July 12
IXL, Alpine co., May 10, $1 50	June 26	July 14
Julia, Storey co., Nev. May 27, 50	June 29	July 17
Kentuck, Storey co., Nev., June 14, $10	July 15	Aug. 3
Lexington, White Pine, May 18, 15c	June 23	July 12
Marlborough, White Pine, May 4, 5c	June 7	June 28
Morning Star, Alpine co., May 11	June 21	July 12
Maxwell, Amador co., May 15, $1	June 15	July 15
Mammoth, White Pine, May 20, 25c	June 26	July 15
Macon's, White Pine, June 24, 10c	July 29	Sept. 4
Mahogany, White Pine, June 17, 10c	July 23	Aug. 14
Metropolitan, white Pine, May 26, $1.50	July 1	July 15
Nocoma, White Pine, June 24, 30c	July 19	Aug. 9
North Star, Nevada co., June 4, $20	July 9	July 30
North Star, White Pine, May 12, 7½c	June 18	July 17
North Bloomfield, Nev. co, May 18, $1 50	June 19	July 5
Overman, Storey co., Nev., May 15, $20	June 18	July 3
Ophir, Storey co., Nev., May 18, $3	June 21	July 6
Phœnix, White Pine, April 27, 25c	May 27	June 26
Ploche, White Pine, April 6, 15c	June 30	July 30
Pocotillo, White Pine, May 17, $1	June 24	July 15
Railbun, White Pine, June 22, $1	July 27	Aug. 14
San Jacinto, Tin, May 27, 50c	June 28	July 13
Silver Moon, White Pine, May 31, 5c	July 10	August 1
Silver Wave, White Pine, June 7, 20c	July 8	July 28
Virginia, White Pine, June 7, $1.25	July 28	Aug. 11
White Pine Water, June 23, $50	July 23	Aug. 16
Willimantic, White Pine, May 20, 20c	July 19	Aug. 10

MEETINGS TO BE HELD.

Albemarle, White Pine	Annual Meeting July 5
Imperial	Annual Meeting June 29
Kewanee	Annual Meeting July 10
Misor's Dream, White Pine	Annual Meeting July 6
Overman, Storey co., Nev	Annual Meeting July 8
Planet, Arizona, copper	Meeting June 24
Silver Vault, White Pine	Annual Meeting July 1
Silver Sprout, Inyo co	Annual Meeting June 29
Sierra Nevada, Storey co., Nev	Annual Meeting July 6

LAST DIVIDEND.

Alpha Cons., Storey co., Nev., div. $2	Pay. June 19, 1868
Amador Co., div. $10 per share	Payable May 5, 1869
Bacon, Storey co., Nev., div	Payable June 19, 1868
Chollar-Potosi, div., $15	Payable June 3, 1869
Coney, preferred Stock, div. 1½ per cent	May 10, 1869
Crown Point, dividend, $7.50	Payable Sep. 12, 1868
Empire M. & M., Nev., dividend $5	Payable May 15, 1867
Eureka, div. $7.50	Payable June 10, 1869
Gould & Curry, div., $7.50	Payable May 15, 1867
Gold Hill Q. N. & M.—dividend, $7 50	Payable July 13, 1868
Golden Chariot, Idaho, div. $3	Payable June 15, 1869
Golden Rule, Tuolumne co, div. 50c ♄ sh.	Pay. June 26, 1869
Hale & Norcross, div. $6	May 10, 1869
Imperial, Storey co., Nev., div	Payable June 20, 1868
Keystone, Sierra co., div., $32	Payable May 6, 1869
Kentuck, div., $20 per share	Payable Jan. 10, 1869
North Star, dividend, $5	Payable Aug. 15, 1868
Occidental, div. $2	Payable March 2, 1869
Pacific Unassessable, div	Payable June 18, 1868
Sand Spring Salt, dividend $1	Payable May 5, 1869
Santiago, Silver City, dividend, $2 50	Payable Dec. 19, 1868
Savage, Virginia, Nev, dividend, $4	Payable May 11, 1869
Sand Springs Salt, Virginia, div., $1	Payable May 5, 1869
Sierra Nev., Storey co., Nev., div., $2.50	Pay. June 10, 1869
Virginia & G. H. Water Co.	Dividend, payable April 15, 1869
Yellow Jacket, div., $5	Payable March 15, 1869

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board

Friday Evening, June 25, 1869.

	Bid.	Asked.
MISCELLANEOUS STOCKS.		
United States Bonds, 5-20s, 1865, '67, '68	$ —	—
United States Bonds, 5-20s, 1864	—	—
United States Bonds, 5-20s, 1862	86	87½
Legal Tender Notes	74½	74¾
California State Bonds, 7s, 1857	95	—
San Francisco School Bonds, 10s, 1891	par & Int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1861	100	—
San Francisco School Bonds, 10s, 1861	par & Int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1866	88	90
San Francisco City and Co. Bonds, 7s, 1862	88	90
San Francisco City and Co. Bonds, 7s, 1864	88	90
San Francisco City and Co. Bonds, 7s, 1865	88	90
San Francisco City and Co. Judg. Bds. 7s, 1865	88	90
San Francisco City and Co. Judg. Bds, 7s, 1864	88	90
Sacramento City Bonds	35	40
Sacramento County Bonds, 8s	70	—
Marysville Bonds, 10s	75	80
Stockton City Bonds	65	—
Yuba County Bonds, 8s	85	90
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	75	—
San Mateo County Bonds, 7s	75	—
California Steam Navigation Co	58½	59
Spring Valley Water Co	64	64¼
State Telegraph Co	25	—
GAS COMPANIES.		
San Francisco Gas Co	79	80
Sacramento Gas Co	52	54
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	—	—
Omnibus Railroad	—	72½
Central Railroad	50	—
North Beach and Mission Railroad	68	—
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	150	160
INSURANCE COMPANIES.		
People's Insurance Company	90	95
Firemans' Fund Insurance Co	94	95
Pacific Insurance Co	110	116
Merchants' Mutual Marine Insurance Co	500	520
California Insurance Co	—	1500
Union Insurance Co	96	100
Home Mutual Insurance Co	193½	20
Occidental Insurance Co	85	91
MINING STOCKS—WASHOE DISTRICT.		
Alpha	23½	25
Baltimore American	—	—
Belcher	24½	25
Bullion, O. H	22	—
Crown Point	55½	56
Cole (Va.)	—	9
Confidence	43	50
Consolidated Virginia	8	11
Chollar-Potosi	329	330
Dancy	1¾	2
Exchequer	10	11
Empire Mill and Mining Co	50	65
Gould & Curry	110	112
Gold Hill Quartz	48	50
Hale & Norcross	143	150
Imperial	77½	80
Julia	1¾	2¾
Justice and Independent	8	9
Kentuck	170	185
Lady Bryan	25	25
American	16½	17
Occidental	—	20
Ophir	22	22¾
Overman	102	105
Segregated Belcher	9	9¼
Savage	85	86
Sierra Nevada	49	50
Union	—	—
United States	—	—
Yellow Jacket	58	58¾
MISCELLANEOUS MINING STOCKS.		
Amador (California)	275	277½
Aurora, White Pine	20	25
Eureka, (California)	205	225
Golden Chariot (Idaho)	44	45
Silver Cord (Idaho)	—	—
Golden Rule, California	10	—
Mohawk (California)	—	—
Pocotillo, White Pine	5½	—

San Francisco Market Rates.

Wholesale Prices.

Friday, June 25, 1869.

Flour, Extra, ₱ bbl		$4 75	@$5 00
Do. Superfine		4 25	@ 4 50
Corn Meal, ₱ 100 lbs		2 00	@ 2 25
Wheat, ₱ 100 lbs		1 40	@ 1 65
Oats, ₱ 100 lbs		1 50	@ 1 75
Barley, ₱ 100 lbs		1 00	@ 1 25
Beans, ₱ 100 lbs		5 00	@ 5 00
Potatoes, ₱ 100 lbs		50	@ 1 15
Hay, ₱ ton		10 00	@17 00
Live Oak Wood, ₱ cord		9 00	@10 00
Beef, extra, dressed, ₱ lb		7	@ 9
Sheep, on foot		2 50	@ 3 00
Hogs, on foot, ₱ lb		6	@ 7
Hogs, dressed, ₱ lb		9	@ 10
GROCERIES, ETC.			
Sugar, crushed, ₱ lb		14	@ 15
Do. China		10	@ 11
Coffee, Costa Rica, ₱ lb		19	@ 20
Do. Rio		—	@ 19
Tea, Japan, ₱ lb		75	@ 90
Do. Green		60	@ 1 25
Hawaiian Rice, ₱ lb		9½	@ 10
China Rice, ₱ lb		5¾	@ 6½
Coal Oil, ₱ gallon		45	@ 47½
Candles, ₱ lb		16	@ 18
Ranch Butter, ₱ lb		35	@ 38
Isthmus Butter, ₱ lb		32½	@ —
Cheese, California, ₱ lb		15	@ 18
Eggs, ₱ dozen		35	@ 42½
Lard, ₱ lb		15	@ 17
Ham and Bacon, ₱ lb		14	@ 16
Shoulders, ₱ lb		7	@ 8

Retail Prices.

Butter, California, fresh, ₱ lb		45	@ 50
do. pickled, ₱ lb		30	@ —
do. Oregon, ₱ lb		20	@ 28
do. New York, ₱ lb		35	@ 40
Cheese, ₱ lb		20	@ 25
Honey, ₱ lb		25	@ 30
Eggs, ₱ dozen		50	@ 55
Lard, ₱ lb		18	@ 20
Hams and Bacon, ₱ lb		20	@ 25
Cranberries, ₱ gallon		1 00	@ 1 25
Potatoes, ₱ lb		1¾	@ 2
Potatoes, Sweet, ₱ lb		3	@ 5
Tomatoes, ₱ lb		5	@ 10
Onions, ₱ lb		5	@ 8
Apples, No. 1, ₱ lb		4	@ 5
Pears, Table, ₱ lb		5	@ 7
Plums, dried, ₱ lb		10	@ 12
Peaches, dried, ₱ lb		10	@ 18
Oranges, ₱ dozen		50	@ 50
Lemons, ₱ dozen		—	@ 1 00
Chickens, apiece		75	@ 1 00
Turkeys, ₱ lb		30	@ 35
Soap, Pale and C. O		7	@ 12
Soap, Castile, ₱ lb		18	@ 20

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, June 25, 1869.

Iron.—Duty: Pig, $9 per ton; Railroad, 60s ₱ 100 lbs; Bar, 1¼@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, ¼@2½c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¾c ₱ lb.

Scotch and English Pig Iron ₱ ton		$44 00	@$45 00
White Pig ₱ ton		36 00	@ 37 00
Refined Bar, bad assortment, ₱ lb		—	@ —
Refined Bar, good assortment, ₱ lb		— 04	@ —
Boiler, No. 1 to 4		— 04¾	@ —
Plate, No. 5 to 9		— —	@ 04½
Sheet, No. 10 to 13		— 04½	@ 5
Sheet, No. 14 to 20		— 05	@ 5¼
Sheet, No. 24 to 27		— 05	@ 5½
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb			
Sheathing, ₱ lb		— —	@ — 26
Sheathing, Yellow		— —	@ — 21
Sheathing, Old Yellow		— 10	@ — 11
Composition Nails		— 21	@ — 22
Composition Bolts		— 21	@ — 22
Tin Plates.—Duty: 25 p. cent. and valorem.			
Plates, Charcoal, IX, ₱ box		12 00	@ — —
Plates, I C Charcoal		— —	@ 11 00
Roofing Plates		10 00	@ 10 50
Banca Tin, Slabs, ₱ lb		— —	@ — 35
English Cast Steel, ₱ lb		— —	@ — 15
Quicksilver.—₱ lb		— 55	@ — 60
Lead.—Pig, ₱ lb		— 7¾	@ — 8
Sheet		— 10	@ — —
Pipe		— 11	@ — —
Bar		— 9	@ — 9¼
Zinc—Sheets, ₱ lb		— 10½	@ — 11
Borax.—California, ₱ lb		— 35	@ — 38

Hydraulic Cement—Supposed Valuable Discovery.—The Honolulu *Gazette* reports the discovery of what is described as a valuable fire-proof, hydraulic cement. It is formed of volcanic ash from the volcanoes of Molokai, and the Hawaiians expect to find in it a new and important source of commerce.

U. S. Bonds in Europe.—The London *Times* says that the amount of United States bonds held in England is $750,000,000. A correspondent of the New York *World* states that the total amount of United States bonds held in Europe reaches $1,400,000,000.

An Absolutely Pure Stimulant.—Ask any analytical chemist who has tested the comparative wholesomeness of distilled liquors, and he will tell you that St. Croix Rum is the purest of them all. This matchless stimulant is the only alcoholic element used in the manufacture of Plantation Bitters—and mark this: it is not the St. Croix Rum of commerce that is so employed, but an article made from the sugar-cane by the agents of the proprietors of the Bitters, on their own sugar estates at St. Thomas, and far superior to any rum obtainable in the general market. Medicated with the finest Calisaya Bark (also gathered and prepared by the employees of the firm in South America), and other rare vegetable curatives and restoratives, the Plantation Bitters are in all respects the best tonic, alterative and regulating preparation ever compounded for the use of man.

***

If spectacles are used before they are required, or if their use is postponed when needed, the eye is injured. Consult C. Muller, 295 Montgomery street, before purchasing.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

ALPINE COUNTY.

Globe.—*Miner*, June 12th: Tunnel extended eight feet this week; total length now, 234 feet, and rock working favorably.

Mountain.—Tunnel now in over 1,600 feet.

Suspended.—Operations on the Michigan, otherwise known as the Indian Chief tunnel of the Alpine G. & S. Co. When Mr. Alison arrives from London and pnts an end to backbiting here, work will probably be resumed.

M. C. M.—This company having tested the Boston machines for converting quartz into fine dust and found them np to the work, will proceed with the finishing the mill as fast as practicable.

Pennsylvania.—*Chronicle*, 12th: After four years' hard work the Pennsylvania boys having proved the valne of their ledge, have been rnsticating during the past three weeks, but are at work again, drifting south.

AMADOR COUNTY.

Oneida.—*Ledger*, Jnne 19th: Wo lsarn that it is the intention of the owners to sink both shafts to the depth of 800 feet, immediately. This is wise. It proved to be the case in the Hayward mine, and the Oneida is on the same vein.

Machinery.—On Monday several tons of machinery was received at Latrobe for the Amador and Summit mines, at Sutter Creek.

BUTTE COUNTY.

Mining Dam.—Oroville *Record*, Jnne 19th: The Messrs. Young and others are making preparations to put in a wing dam opposite the town. Mining operations along the river have changed the channel somewhat, and the boys are going after the old channel during the present summer.

Mountain Spring.—Letters to same: Moure & Stewart, three miles below the Hill, did well. They had water about two months and clean up about 300 ounces. Drake & Davis' claims, at the head of Cascade, didn't do much, as they failed to get their tunnel done in time to use much of the spring water. But it is only a question of time with them, as they have thousands of acres of undoubted richness. The parties opening Lower Cascade Valley have commenced operations. The work is carried on by Captain James Owens. They think that it will cost them $12,000 before they get returns. They started the arastra at the Barranco miue this week. Squire Woodman is workiug a gang of Chinamen in the river just below Stringtown.

CALAVERAS COUNTY.

Petticoat.—*Chronicle*, June 19th: At the depth of 190 feet in the new shaft, a wide lead of first quality ore has been struck. The shaft will be sunk a considerable distance further before commencing to take out rock in quantities.

Palomo.—Affairs are progressing favorably at this mine. An average of 30 tons per day is being crushed. At a depth of 200 feet the ledge has increased to seven feet in width, and the quartz improves as they descend.

A Rich Strike.—Tullock & Co., from Knight'e Ferry, have been opening a very promising quartz vein half a mile from Copperopolis. The lode is large and well defined, varying from three to eight feet. The ore will pay from $10 to $40 per ton.

New Discovery.—We are informed that a lead of gold-bearing gravel, said to be very rich, has been discovered near the Mokelumne river, abont 15 miles above West Point. The partiee who have located the first claim are Messrs. Eproson, Hoskinson & McDonald.

INYO COUNTY.

Cerro Gordo.—*Alta* correspondence, June 17th: "New discoveries of rich and extensive deposits of silver ore are being made every day, and the hum aod bustle of our camp is increasing. Belshaw & Elder's furnace is still running, and turniug out the bullion faster thau it can bo carried away. The Mexicans are running small vasos. No oros are worked here that pay less than $200 per ton, and all the ores average over $400 per ton. The San Ignacio mine averages over $800 per ton, the St. Lucas, Belmont, General Rathbone, and a hundred moro will assay from their croppiugs more than the average of the best at White Pine."

KERN COUNTY.

Kernville.—Havilah *Courier*, June 15: The mill at this place is pouuding away, and with tolerable success.

MARIPOSA COUNTY.

Mariposa Mine.—*Mail*, Juue 18th: This mine is now in good working order. The water has all been pumped out, and the drifts securely timbered. The miners are taking out quartz, and in a short time our ears will be greeted with the sonud of the whistle.

Hornitos.—*Gazette*, Jnne 18th: Mr. Dyer is going to commence work on his vein on Quartz Mountain in a few days. This vein has not been worked in several months. It is his intention to use Giant Powder and thoroughly prospect it.

NEVADA COUNTY.

Mining Situation.—Grass Valley *Union*, June 16th: The stopping work at the Empire does not make the mining situation cheerful, and it is possible that other mills will hang up. Night before last the hands at Allison Ranch were paid off and discharged, but not with any intention at present of stopping work. Contracts will be let for carrying on work. The Hope Gravel Co. is drifting for the lead, and it is pretty certain that the old river bed will be found in a day or two. The strike still maintains a solid front and various reports to account for the firmness of the strikers, are current. One of theso has it that assistance to the leaguers has been furnished from San Francisco, by parties interested in powder. The report is probably a false one.

Union Hill.—The mill is in successful operation, and the rock paying well—the ledge now larger and rioher than it has ever been.

The Eureka.—Same of 20th: It has been stated that the Eureka mine would stop taking out rock to repair the shaft and to timber up the drifts. Mr. Watt, the Supt., informs us that no decrease of working force will be made. The mine is arranged so that repairs can go on at the same time regular work is being done.

Bald Mountain Ledge.—*National*, 14th: This ledge is near Eureka South, 35 miles from here. The ledge is three ft. in width, cased in slate, and well defined. A tunnel has been run in 50 ft. We saw a piece of rock weighing a pound prospected, and not less than $1 in gold was the result.

Idaho Mine.—Same of 18th: For the past two weeks work has been hindered by foul air. The difficulty has now been obviated by a draw pips from the 200 foot level to the top of the hoisting works.

West Idaho.—A tunnel has beeu run in 120 ft. whioh struck the ledge, and on Wednesday they started to sink. The ledge is two ft. wide, rich in sulphurets and galena, and shows free gold.

Gold Hill Mill.—The mill is now crushing boulders from the Slide near town, and quartz from Deadman's Flat and other localities. All the rock pays well.

Allison Ranch.—Same, 19th: A party of practical miners have taken a cootract to take out rock from the Cariboo ledge, at the south end of the Allison Ranch mine. The owners of the mine furnish every thing, aud the coutractors or lessees pay them a percentage of the yield of the rock. About 25 men will be furnished employment.

Purchase.—*Gazette*, 18th: The Banbury aud Stacy ledge, near Eureka, has passed into the hands of Black, Irwin & Young. One-half was sold for $4,000. Black & Young's mill is crushing rock from this ledge, which pays well. The ledge is large, well dcfined, and the entire cost of taking out rock and crushing it does not exceed $5 a ton. The rock is in a partially decomposed state, and their 10-stamp mill is able to reduce 25 tons every 24 hours.

A Good Move.—Cornishmen, recently of the Banner mine, have made arrangements to erect a quartz mill on a ledge at Washington. They are to have half the ledge for putting up the mill and machinery.

The Prospects.—*Transcript:* Though times are dull the prospects are exccllent. In the district on tho Yuba above Washington, a party of experienced miners who would not work with Giaut powder will put up a mill and test the valne of the ledges. At Diamond Creek, Mr. Singleton is working a good mine. Eureka is a lively camp; a large amount of prospecting is boing done. At Mooney Flat, compauies have gone to work with ample capital to open the rich pay channel which connects the rich cement heds of Smartsville with the channel on the ridge. The miues along the ridge are payiug well, and the North Bloomfield Gravel Co. are investing large amounts to open their claims and complete thcir ditches.

Meadow Lake.—Truckee *Tribune*, June 19th: Mr. A. Friedmau, of this place, visited Meadow Lake a few days since, aud from him we learo that the majority of the houses have been crnshed in by tho snow. Not more than ten or a dozeu families are now there; but the few are as sanguine as ever that the mines are good and will yet be proven so. Mr. F. witnessed the working of some ore by the Burns process. The rock is desulphurized and decomposed by some process which takes about six hours, and can then be pulverized in the hand, no matter how hard the rock may have been. The gold is left bright, and can be readily separated by ordinary pan process. The estimated cost is about $5 per ton. The process has been patented. Mr. F. thinks that a reactionary flow will soon set in towards Meadow Lake.

PLACER COUNTY.

American Falls Mining Co.—*Herald*, June 19th: A company under the above name existed here for many years and spent $80,000 in endeavoring to drain and work Murderer's Bar on the Middle Fork of the American River, near its junction with the North Fork. An attempt was made to blast out the bsdrock forming the Falls, and open a channel deep enough to drain the entire bar and bed of the river, but from some cause the company failed to succeed. A company is now sinking on the npper end of the bar, using water-power for pumping and hoisting, and contemplate drifting on the bedrock.

Colfax.—*Stars and Stripes*, June 17th: Tho Rising Sun mine is agaio in a prosperous condition. The proceeds of a week's crushing lately amounted to $1,100. The company are sinking their main shaft for a more permanent ledge. The Ranger Co. have been running a tunnel for a year, which, when completed, will strike the ledge 200 feet below the snrface. There was some rock shipped from McCaffery's claim to a mill in the vicinity of Ophir, to be orushed. The parties who crushed it offered to buy 200 feet in the ledge.

SISKIYOU COUNTY.

Klamath Quartz Ledge.—Yreka *Union*, 19th: Since operations have been resumed, a tunnel has been run 60 feet, when a lode of quartz from four to eight feet in thickness was struck. The quartz is of excellent quality.

Hardscrabble.—We understand that Lieut. Harry Mathewson's Hardscrabble claim is paying handsomely at present—netting about $200 per wesk.

SIERRA COUNTY.

Cleaned Up.—Downieville *Messenger*, June 19th: The result of the crushiug of 100 tons of Ned Lsonard's rock was $8 per ton. Nearly all of this was from a spur of the main ledge. That crushed at the Gold Bluff mill was from the main ledge.

TUOLUMNE COUNTY.

Brown's Flat.—Souora *Democrat*, June 19th: We learn that several of the claims are doing well. The old Mississippi is doing a large business.

Confidence Mine.—This well known mine having been tested sufficieutly to satisfy the owner of its richness, this week a commencement was made in building a 20-stamp mill.

YUBA COUNTY.

At Work.—*Appeal*, June 17th: The Pennsylvania mill at Brown's Valley, which has been silent and quiescent for over two months, commenced crushing yesterday with 16 stamps.

ARIZONA.

Wickenburg.—Prescott *Miner*, June 5th: Parties ioform us that both mills are running, and times quite brisk. Great improvements have beeu made at the mine. The Vulture Co. have a whim for raising ore. Mr. Taylor, foreman of the mine, talked of going to Scotland, for steam wagons, to be used in hauling the ore from the mine to the mill. J. D. Cusenbary, and Mr. Phelps, were expected to arrive shortly.

Walker's.—The old camp bide fair to become again the busiest in the mountains. Bowers & Wells have commenced digging ditches, making reservoirs, getting out timbers, blocks, etc. They have in their employ 20 meu.

The Sterling.—Monday was pay day. Mr. Wnuderlich disbursed about $3,000. The number of mon employed at mill and mine is 35. The lode is splendid. A whim to hoist ore is nearly completed. The now battery will soon be in position.

Montgomery.—A man from this mine on the Hassayampa, brought in some very rich pieces of rock. The arastras were almost completed when he left.

COLORADO.

Bullion Shipments.—Central City *Herald*, Juoe 9th: The shipments of gold and silver per Wells, Fargo & Co., for April, foot up $127,071, aod for May, $156,930. These figures are approximate, and show a healthy increase over the true shipments of corresponding months last year. We feel warranted in stating that the mines of Gilpin County are now producing over $200,000 per month.

A Comparison.—The *Herald* quotes the published yield of several White Pine mines, and adds: "We can show as rich ore as White Pine, but not a chloride ore, and not so easily converted into cash. The Terrible and Equator are now producing ore which nets the owners $800 per ton, after paying the expenses of ssnding it to New Jersey."

North Empire.—*Register*, 10th: Robert Jones rsports mining affairs as flourishing. The Disbrow boys are about putting a pump into their mine on the Conqueror.

Williams & Sullivan had four cords of ore from the James lode, Nevada, crushed, which yielded ninety ounces of very pure gold bullion.

Bullion.—The shipments of bullion have, for the first seven days of the month, amounted to $70,000.

Jones Lode.—Yesterday we fonnd Messrs. Sullivan & Andrews raising rich ore, at the rate of a cord per day. They are down 50 feet, and have a vein of pay ore eight to twelve inches wide, which yields, undor stamps, an average of 25 ounces per cord. One load of several cords last week yielded 26¼ ounces.....On the same lode, Dee & Ganley are taking ont ore of the same general character, though not quits as rich. They are down 30 feet, and are raising a cord a day, which yields 14 to 16 ouuces.

Spring Gulch.—There are two mills running, McIntyre and Montana. The former, leased by John Young, is crushiug ore from the Alps aud Roderick Dhu. The mill has 24 stamps and two Freiberg pans. They are crushing about 14 cords per week. The Montana mill, John Schellenger, is crushing dirt and rock from the Patch, on Quartz Hill. He is running 20 etamps, and gets through 35 cords per week, obtaining two ounces per cord.

Baker S. M. Co.—Georgetown *Miner*, Juno 10th: The large reduction works of this company will be completed about the first of July. William H. Crawford will purchase ores. Col. Baldwin, Capt. Dickerson aud several parties will commence mining in Daily next week. The workmen on the Baker mine have struck a large deposit of solid mineral nearly three feet wide.

Items.—Mr. Watson commenced smelting at the Brown Co's works on Monday. ....A. C. Smith & Co. are developing some fine lodes on Sherman Mountaiu.....The crushing and dressing works are rapidly approaching completion....The Baltimore and Colorado tunnel was in 90 feet on Saturday.....Crow & Clark will commence shipping their first-class ore, from tho Terrible lode, to Newark, New Jersey, for reduction....The Equator lodo cootinues to yield a large amount of sccond-class amalgamatiou ore, as wsll as considerable first-class.

IDAHO.

Flint District.—*Tidal Wave*, June 11th: L. J. Swart and Dan. Edwards are pitching into the Leviathan mine, and will start Black's mill on the ore in about four weeks.

Red Jacket.—Same, 15th: Charles S. Miller of Dalles, Oregon, will immediately commence developing the Red Jacket mine on War Eagle Mountaiu. He has other locations both here and in Flint, that will be attended to in due time.

Nortaern Idaho.—Same, 18th: The Moose Creek mines have been almost abandoned for want of water to work them. Reports are not favorable from Warren's Diggings.

MONTANA.

Crow Creek.—Helena *Post*, June 4th: Times lively. Five hydraulics are run with good results. In all about 40 claims are worked, yielding good average pay. Plenty of water is reported.

Sterling.—The Sterling Co. with 17 men, clean up large. Mesler & Co's ditch is completed. Fletcher & Clark are mining extensively. Dr. Stafford is hydraulicing. Gilbert & Co. have a ditch from Willow Creek upon Gold Run, about seven miles. Quite a number of men could obtain constant employment at good wages. Taken all together, the prospects are flattering.

Blackfoot, etc.—Water short in prospect, but a large number of miners at work. At Deer Lodge only three hours' supply of water in the 24.

Gold.—We noticed yesterday at Bohm & Aub's bank a gold brick, weighing 1,039 ozs.—coin value $18,547.69; currency value $26,000. Another was valued at $7,000. In Hussey, Dahler & Co's was another of $14,000. All these bricks were made from gold taken in at two of the banks in Helena. During the month of May, Wells, Fargo & Co. shipped from Helena, 30 per cent. more gold bullion than during the corresponding month of 1868.

Lincoln Gulch.—There are about 35 claims being actively worked, and all pay

well. On Nos. 5 and 6 there was a dump of dirt, the result of last winter's drifting, and on last Saturday from this dirt, one man with a shovel cleaned up 84 ozs. The upper drain ditch company is working from 25 to 30 hands, and average some $17.50 to the hand.

VIRGINIA CITY.—About 30 miners are at work in Rochester Gulch. Alder Creek is lively. Washington Gulch is creating some excitement.

ANOTHER BRICK.—Same of 11th: Bohm & Co. ran another gold brick yesterday, weighing 900 ozs., and amounting to about $23,000. This is the result of one day's purchase of gold dust.

WATER SHORT.—Reports are unfavorable from Reynold's City, Deer Lodge, and Blackfoot.

RADERSBURG.—Blacker & Keating ran some quartz through an arastra, the other day, which yielded $96 to the ton.

BANNACK.—The Pioneer Ditch Co., after hydraulicing two weeks, cleaned up $3,000 in gold. White & Co's Ditch Co. netted $7,000 in gold from a little over one week's run with two hydraulics. Frank Gregory and others own a hydraulic which they are working with satisfactory results. The greater part of the water comes from Horse Prairie Creek. On this extensive preparations are made for mining this summer. Geo. Yearing expects to run five hydraulics. Almost every claim around Bannack is being worked, and there will be more gold taken out than any year before. Mr. Clark has, at the end of the railroad, a five-foot turbine wheel, by which he will run 20 stamps at little expense. Butterfield & Hopkins mill will be started at once.

NEVADA.

NYE COUNTY.

About 60 miles southwest of Austin, in Mammoth district, and half a mile from the village of Ellsworth, in Nye County, the Ural S. M. Co. have a location of six mines, known respectively as the Vernon, Adrian, Oakland, Gould & Curry No. 1 and 2, and the Ural lodes, and comprising an aggregate of 5,200 ft. Mill workings from the Ural and Gould & Curry No. 1, have yielded respectively $66.75 and $131.93 to the ton, while assays of small quantities have often exceeded that amount. The company having fully satisfied themselves with regard to the value of their property, are now making arrangements to put up a mill upon the same, and commence active mining operations. It has been organized on a capital basis of $1,000,000. Their principal office is at Owego, N. Y., and the company is chiefly made up of men who mean business, and who have gone into the same as a legitimate mining enterprise. The Superintendent is Chas. E. Gillett, of Ellsworth, Nev.

HUMBOLDT.

WHITE CLOUD.—The *Alta* of the 17th, gives a letter from this point. We quote: "I have examined four newly discovered lodes that look as well as the best in Owyhee; some of them bear a strong resemblance to the Comstock lode. If I am not greatly mistaken, this district will become one of the most important in Nevada. The facilities for working the mines are better than I have seen in Idaho or Nevada. Water, grass and timber are abundant, and they are very essential to successful operations in Nevada mining.

Prospecting seems to increase. Parties are scouring the hills with pick and shovel, in quest of new lodes and not a day passes without striking something.

The ledges appear to be well defined and easy to work. The White Cloud is the widest, and one of the best we have ever seen.

This is one of the most healthy localities in Nevada, and a pleasant place to reside in."

COPE DISTRICT.

It is not an easy matter to learn the truth in regard to this new mining field. We give two clippings in reference to it:

Grass Valley *Union*, 20th: Mr. Gibbs informe us that there is no reason for any excitement about the new district, and that there is no sense in a rush. There are two ledges which assay well in silver, and contain some gold, but the extent is not yet known. Mr. Gibbs left the Cope District Thursday, and is certain that as yet no one knows whether there are extensive deposits of precious metals there or not.

Elko letter of date June 14th, to the *Enterprise:* "The opinions concerning the new mines, of persons returning from them, vary. Many assert that the reputation of the place is based upon a rich boulder found by Col. Drew's party, which is not surrounded by any other indications of the great ledges talked about, and that the placer diggings are purely mythical. Notwithstanding these reports, crowds leave this place daily. Some fine specimens of quartz are brought back, but when one tries to ascertain where they were discovered the specimen-carriers are singularly reticent. The country is described as one of the most beautiful in the State, and well watered."

REESE RIVER.

SILVER PEAK.—*Reveille*, June 19th: We are indebted to B. B. Stansbury, just returned from Silver Peak, for information in regard to the Great Salt Basin Co. The mill is now in perfect order and runs to a charm. It has 30 stamps and crushes and amalgamates 45 tons of ore daily. This is furnished by the famous Red Mountain mine. The amount of gold ore which this mine is capable of yielding, appears to be without limit—not less than 15,000 tons now lying at the mine. The ore is brought from the mine to the mill, a distance of seven miles, in two huge wagons, each drawn by 12 mules, over a railway track laid for the purpose. These mammoth wagons carry 22½ tons of ore each at a load. The forward spindles are 3½ inches in diameter, and the hind ones four inches, the box being 18 feet long. Mr. Stansbury thinks the bullion shipments of the company reach in the neighborhood of $20,000 per month.

Some 40 miles south from Silver Peak is another district called the Gold Mountain district. One of the ledges called the Gold Mountain lode, has been sold to an Eastern company for $30,000, and a 20-stamp mill was being erected to work its ores.

Col. Catherwood, who had been operating in the Palmetto district, was said to have sold out and gone East.

WASHOE.

[In the Stock Circular, in another portion of this paper will be found late mining news from this district.]

BOWER'S MILL BURNED.—Gold Hill *News*, June 18th: The Bower's mill was destroyed by fire this morning. The fire is believed to be the work of an incendiary, as the mill has not been running for several months. It contained three batteries of five stamps each, and 18 pans, with machinery in proportion. It belonged to the estate of L. S. Bowers, deceased, but was held under a mortgage by George Waters. It was insured for $16,000, which nearly or quite covers the actual loss.

MINING ITEMS.—Same of 19th: In the Yellow Jacket, less than 100 men are employed, owing to the difficulty of ventilation. The two main drifts at the 800 and 900-foot levels are being pushed northward, and are in some 700 feet from the south shaft. At this shaft the old hoisting works are being overhauled and renovated. The whole will be completed about the first of next month, when the works will be started up.....In the Crown Point, the only work being done is at the two lower levels—1,000 and 1,100 feet below the surface—which are still being driven east from the shaft, toward the ledge.....The new Imperial shaft is about 1,150 feet deep. The water decreases as depth is attained. Only hard porphyry, and barren quartz in the bottom of the shaft, with no signs of metal. The rock blasts well, and Giant powder is used with good effect. The upper levels of the old mine continue to yield ore enough to pay expenses.....Kentuck seems in depressed circumstances at present, no extensive quantities of ore being produced..... The lower Occidental tunnel, which is nearly 1,000 feet in length, is being driven ahead. The flow of water remains about the same. The mine continues to yield well.....Sinking in the Gould & Curry main shaft is discontinued. The upper levels of the mine yield 70 tons of ore per day, averaging nearly $40 per ton.....In the Flowery, the connection between the drift and the shaft will be made in a few days, giving a good circulation of air, and opening up a large increase of ore..... Bullion is still drifting east at the 1,400-ft. level....Challar-Potosi, Hale & Norcross and Savage, are yielding satisfactorily..... Daney hoisting works will be in running order about the first of next month. The mammoth tunnel is 160 feet west of the winze.....Ophir drift west at the 700-foot level from the shaft is in 370 feet.....The first Sierra Nevada clean up for the month, on the 15th instant, yielded $12,000. ....Neither the Belcher nor the Segregated Belcher are yielding ore at present. ....About 40 men are employed in Overman, and the yield of ore is abundant, but of a low grade ...The main Julia shaft is 300 feet deep.....Lady Bryan has plenty of good ore in sight.

WHITE PINE.

THE PROSPECT.—*News*, June 15th: The bullion shipment of last week fell a little short of that of the week preceding—partly owing to the elections. Mining was generally suspended. The shipment was about $70,000 for the week, to $78,000 for the previous week. Ten mills,—in all 120 stamps,—are kept constantly at work on good ore. The supply at the mill is kept well ahead, and the large stacks at the mine dumps, while the dumps at the batteries are kept full, give guarantee for the erection of more mills. The milling capabilities of the district will be more than doubled during the summer. The Consolidated Chloride Flat Co. is now erecting a second mill of 20 stamps. The Aurora Co. is erecting the finest mill in the district—30 stamps. Another is to enter the list in a few days—the mill of the Metropolitan Mining Co.—15 stamps. The Pogonip & Othello Co. has such an amount of fine ore as to demand a mill, and the managers are arranging for the machinery. When the mills now under way are running, we will have a crushing force of 185 stamps.

ITEMS OF PROGRESS.—*News*, 11th: Ore worth $4 per pound is coming out of the Posthole mine....15th: Silver Wave ore, average assay, $420 per ton....Eberhardt is working 85 men....White Pine Mountain, across the cañon west of Treasure City, is 1,027 feet higher than the highest peak of Treasure Hill,—as ascertained by Major Sherman....Chloride Flat is lively with pack-mules laden with sacks of ore. ....The Rattler is shipping ore to the Nevada mill....18th: Rich ore struck in the Kasell mine yesterday....Work suspended on the Good Omen....Do. on the Phil. Sheridan, temporarily....Original Hidden Treasure is yielding 100 tons of ore daily, 40 tons being shipped to the mills at Hamilton and Newark. The ledge is 97 feet wide. The company contemplate putting up a 40-stamp mill....Pocotillo difficulty settled, and work commenced....Mammoth ore assays $720 per ton....West Point main shaft now down 40 ft. Giant Powder used... Evening Star ledge—in Mahogany Cañon, between Eberhardt ridge and Argyle Hill,—has been stripped 140 ft., and no walls yet. .. .The Mazeppa has struck a solid body of rich chlorido ore in the 9-ft. breast.... The Industry mine near the line of Chloride and Pogonip Flats, last Sunday shipped $2,763.42, and on Wednesday, $2,548.86—total this week, $5,312.38.... Oakland Co. has struck ruby silver at depth of 40 ft....Horseshoe ditto.

HAMILTON.—*Empire*, 15th; Mr. Brown will put up smelting works on the Queen City, Base Metal Range....Mr. Howe will have furnaces on his mine, in the same range. His ore averages $300 per ton.... 17th: Bullion Hill is the name of a newly discovered series of ledges, about two miles west of Hamilton. Mr. Marsh got an assay of over $7,000 per ton. It will be another Treasure Hill.

TREASURE MILL.—*Empire*, 18th: "It takes three men to carry away the amalgam and handle the quicksilver. There is a pile of ore now at the mill about 4 ft. deep, 50 ft. wide and 100 ft. long; and yet it comes at the rate of 40 or 50 tons per day.

OUTSIDE DISTRICTS.—Reports from Patterson are favorable....Cole & Johnson's claim in Pinto Disirict, has a 57-ft. ledge, and is rich all the way through....We saw yesterday two bars of bullion from Robinson District,—one from the Mayflower, and one from the War Eagle.... Kern is a new district on the western end of Snake Range. Indications are good.

NEW MEXICO.

ANIQUIU.—Santa Fé *Gazette*, June 5th: The reports from the newly-discovered mines near Abiquiu are exceedingly favorable. Many of our citizens have gone up to see what is to be seen. Should the placers prove as rich as is anticipated, water will be taken to them from the Rio Chama in time to do a good quantity of profitable work this season.

MORENO.—*Lantern*, May 29th: Maxwell's 30-stamp mill has left Sheridan, and will soon be pounding away among the mountains on the other side....L. B. Maxwell bought out the Leaveuworth Co. for $8,000 cash....The last contract on the ditch has been let....Connelly & Chaffin, in tunneling to the Pacific lode, have struck a rich vein of ore. The depth is 200 feet. It is called the Golden Gate....The Grouse Co., composed of Thomas Lothian, Martin Lasswell, Geo. M. Carpenter, Henry Shuman and Charles Williams, cleaned up on Tuesday last 20 ounces of dust, the result of five days run with three men.

WYOMING.

CARISO.—*Sweetwater Mines*, June 9th: Z. Swaringer informed us that the sale of 400 feet on the Cariso ledge has been closed, and that Mr. French would arrive on the 16th. A 30-stamp mill is to be brought from Silver City, Idaho.

WHITE FAWN.—This ledge is turning out good. At a depth of eight feet it prospects well.

ITEMS.—Major Baldwin's claim on the Silas Wright looks well. John Snetzer on the same ledge has a vein five feet in width. He has a shaft down 10 or 12 feet....J. W. Reed has discovered a good-looking ledge near the St. Lawrence.....The Mary Ellen ledge has been found 1,200 feet west of discovery. It is looking better in the last shaft than at any other point.... Donald & Smith have resumed work on the Barnaby lode.....Young America 10-stamp mill arrived on Monday.....The Willow Creek Co. will be ready to commence sluicing this week.....Jim Mill's 10-stamp mill arrived to-day.....Poorman has a 10-foot shaft, and a vein of 2½ feet. Rock frequently shows free gold.

MAMMOTH.—Same of 12th: Col. Elliot has erected a splendid shaft house and dwelling houses for hands. There will be a large mill erected as soon as the machinery arrives from Chicago. The Mammoth lode has a crevice of thirteen feet of good mill ore. There are several extensions.

ITEMS.—The Minnesota prospects well. ....The World Beater has a 27-foot shaft, and a 2½ foot vein. The work goes on day and night, and splendid quartz is coming out. We saw specimens covered with free gold.....A 14-ounce nugget came out of Rock Creek on Wednesday.....Captain Turner has leased the arastra on Wilson Creek, and will commence running on rock from the Carrie Shields and White Fawn ledges.....Henry Clay Co. are sinking a shaft.....Mr. Anthony's 10-stamp mill at Atlantic City, will start up in a few days. ....The claims on Atlantic and Smith gulches are paying handsomely.

COAL, IRON AND RAILROADS ON THE GULF OF MEXICO.—E. G. Barney has made a report on the mineral resources of Alabama, in reviewing which the Mobile *Register* puts forth the claim that coal and iron can be produced cheaper in that State than in Pennsylvania. The Grand Trunk Railway, terminating at Mobile, is advocated in connection with projects of mineral development which, it is stated, would, if carried out, be of more worth to Mobile than cotton ever was. The present Gulf demand for coal is 500,000 tons annually.

CHINESE IN THE EASTERN STATES.—It is said that there are now about 1,000 Chinese in New York, engaged in various light occupations. Some enterprising Yankee has given out word that he intends to obtain an additional number, which he proposes shall be engaged in housework, after the manner of similar employment in this city. Another still more enterprising genius, proposes to procure some fifteen or twenty thousand of the same race to work the sugar and cotton plantations of the Northwestern States. He proposes to take them thither over the Pacific Railroad.

STORAGE OF PETROLEUM.—M. Deville thinks that many of the fires from petroleum are caused by its expansion in bulk in hot weather, causing bursting of the containing vessels, or oozing out of their contents unnoticed, which are then a source of danger. The preventive is to leave sufficient room for such expansion in filling the vessels.

CASKS MADE AIR AND WATER-TIGHT.—The *Chemist and Druggist* says that a series of experiments has been instituted with the object of testing paraffine for this purpose. "The result has been to establish fully the value of the process. Paraffined casks, while retaining the safety and economy of wooden vessels, are in respects of cleanliness and non-absorption, equal to glass."

A PRETTY FANCY.—A very peculiar and charming effect is produced by mounting diamonds on fine invisible springs, so that whenever the wearer moves they acquire a peculiar quivering movement, and scatter their rays of brilliant light like minute stars.

GEORGE FRANCIS TRAIN may be mad, but there is method in his madness. Three years ago he had the foresight to purchase 400 acres of land in Omaha, which is already worth six or seven times what it cost him, and still rapidly increasing in value.

CENTURY PLANT.—The citizens of Rochester, N. Y., are being treated to quite a novelty—a century plant in bloom. It is attracting much attention.

Mining and Scientific Press.

W. B. EWER.....Senior Editor.

A. T. DEWEY. W. B. EWER.

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Georgetown, C. T.—John A. Lafferty, Postmaster.
Denver City, C. T.—Woolworth & Moffat.
Cheyenne, D. T.—Robert Beers.
Omaha, N. T.—Barkalow & Brothers.
London—George Street, 30 Cornhill, E. C.
A. C. Knox, City Soliciting and Collecting Agent.

San Francisco:

Saturday Morning, June 26, 1869.

Notices to Correspondents.

E. B. P., Havilah.—"Horse-power" is a mere conventional expression of power, in a steam engine for example, and does not mean anything definite, the real criterion of power being the amonnt of steam pressure with which you follow up a certain (correspondingly) sized piston. As this pressure varies from 7¼ to 100 pounds to the square inch, from low to high pressure engines, the ordinary rnle for obtaining the nominal horse-power of an engine is to multiply the sqnare of the diameter ("D") of the piston in the cylinder, in inches, hy the stroke, ("S") the nnmber of feet it travels per minute, allowing for pressnre conventionally; or, precisely stated, $D^2 \times \sqrt[3]{S} \div 15{\cdot}6$, for high pressure. For a condensing engine, divide by 47, instead of 15·6. In the use of water, the theoretical horse-power is ohtained hy multiplying the head of water from the tail-race, in feet, by the quantity of cubic feet per minute; and the theoretical power being as 1, the effective horse-power, in case an overshot wheel be nsed, would be 68-100ths of that figure.

Founder.—An opinion has been expressed by Professor Hennessy, based on some results fonnd in the writings of Professors Thompson and Clausius, on the dynamical theory of heat, touching the infinence of pressnre upon a molten fluid (so circumstanced as to he incapable of losing any portion of the heat evolved in consequence of condensation), that so long as the matter continued in a fluid condition, the resistance to compression wonld be very small. Shonld, however, the fluid he on the point of changing its state to that of solidity, the effect of ths latent heat of fusion, (supposed to he incapable of emission), would interpose a resistance of enormous power. The fused matter of which the intsrior of the earth is generally suppossd to exist, may be in a condition similar to that just atated, owing to the low conductive power of the outer crust.

Interested.—Earthquake tahles, of periods of more than 1,100 well-recorded earthquakes have been made of such as have occurred at the four special seasons of the year to which you allude, and are called hy Professor Perrey, of Dijon, and others, the *critical epochs*. As will he seen, the period extends over twenty days, viz., ten days before and ten days after each solstice and equinox—

Vernal equinox (March 10—30)	310
Summer solstice (June 11—July 1)	264
Autumnal equinox (Sept. 13—Oct. 3)	249
Winter solstice (December 11—31)	318

Notwithstanding the inferences which may and have heen drawn from the table given, it is far from settled that any very great difference of earthquake energy exists between the times stated, and other parts of the year.

Carlin.—You were right; ten psr cent. is ths legal rats of interest in California.

Continental Life Insurance Company, 203 Montgomery street, corner of Pine. *

Schlaginweit's Lectures on Central Asia.

Prof. Robert Von Schlaginweit has lectnred twice at the Mercantils Library befors the cultivated German population of San Francisco, and on Monday evening last he also made some remarks befors the Academy of Sciences, which wers highly appreciated. His appearance and mannsr remind one of Bayard Taylor, bnt his matter is very simply and accurately descriptive. He conveys a great deal of information in a manner so effectivs as to create in the mind of the auditor a perfect and lasting picture of the conntry described. Worthy of remark is the fact that the educated and better class of Germans in San Francisco can so nearly fill the hall of the Mercantile Library with an audience whose mental and physical appearance impresses one most favorahly as to the character of the Tentonio element on the Pacific Coast.

The elevated plains and harreu regions of Thibet; the sway of China and tinctnre of Mongolian blood so far towards the west; the people's habit of holding annnal markets like that of Nijni Novgorod in Russia; the prevalence of religious feeling, in Buddhistical tenets and in the industrions use of the prayer wheel; odd customs, snch as polyandry,—the reverse of polygamy,—where one woman has many hnsbands, generally brothers; the absence of a very ancient literatnre, like those of India and China; the extreme vigilance of tho boundary police with whom every traveler has his encounters—and many other interesting points to which we are unahle to do justics, constituted the matter of the Professor's lectnres.

Interior Changes.

In Alpine County, the Indians engage in grading lots, excavating cellars, filling up streets, furnishing wood, and undertake a variety of work by contract. Wherever the white man's industries establish themselves in the newly-prospected countries, the Indian hows to destiny and falls into line—or vanishes like clouds after sunset, unaccountably from our sight. We have seen the Washoes congregated in all their native glory in the regions designated Alpine Connty, and we wonder at the changes that are going on, above and below the surface, in that conntry of the pine nut, under the strong arms aud telling hammers of a race that will conquer, if it be the old earth itself, and that will not be discouraged. Times are changing, nnder the pertinacity of labor, even the aspect of those sweet-scented pine hills. We snrmise that it will now be a rarer sight to happen npon several hnndred hnmming bucks, and as many modest-eyed aboriginal belles of the mountains,—in whose faces and eyes we have observed playing the same consciousness of magnetic femininity that bslongs to polished and civilized society—dancing in circles on the grass and making merry by moonlight on a midsnmmer night. Where we rambled over trails, on our way to the summit of Cary's Peak, or labored up the timbered ridges of the pallisaded region of the Sierra in that vicinity, we would to-day happen upon fresh cut mountain "grades," and here and thsre upon a *halde* of disemboweled rock, from out the mouth of some dark cool tunnol, leading into the interior mysteries of those ont-of-the-world mountains, where the sprites of the little green valleys in all prohahility mnst have bsen hiding themselves ont of our sight when we were there,—since it is evident that in such a country they do exist, were we but able to see them.

Old Subscribers.

Whose term of subscription expires with the end of the present volume (XVIII) will oblige us by remitting their subscription for the next year at once, so that it may be received before the next issue.

Artificial Stone Manufacturing.

Indications of activity, prosperity, and snccess ars met with in the establishmeut of "The Pacific Stone Company" at the corner of Tnrk and Larkin streets. Difficulties that for a time made tho inaugnration of this new enterprise an exceedingly laborious and worrying task to the superintendent, (Mr. Steen) have one by one been satisfactorily overcome. Infusorial earth is now discarded, and common white quartz snbstitnted for the mannfacture of silicate of soda; while sand of a superior quality is obtained from North Beach, and from Alameda County. For certain kinds of stone, pnre quartz sand is preferred; for others, the disintegrated sandstone of the bay peninsula is found to be better, making a tougher stone. Thers is at present in hand a largs contract for balustrades around the porches of the residence of Mr. Ralston, in San Mateo Connty, whoss architect, having examined some test prodncts of the establishment, pronounced them superior, as stone, and for that purpose, to any building stone that could he quarried in the country. For city railings and fences, there are produced very tasteful designs of massive sandstone, the cost of which is only about double that of a cheap wooden fence, while the effect is exceedingly substantial. Scarcsly a beginning has yet been made in the arrangements for the immense variety of applications to which the Ransome stone process is adapted. The grindstone trade alone is said to be enough to keep these works,—which are not small,—constantly employed, the consumption of that article being surprisingly large in the aggregate. Molds are made for any desirahie size and shape, from a chnrch pillar to a statue; the sand, properly mixed and moistened with silicate of soda, is shovelled in; then the cementing or binding fluid, chloride of lime, is forced into the pores by suction, in other words by exhaustion of the air with an air pump. The unalterable silicate of lime, and the soluble chloride of sodium result; the latter being easily washed out hefore the stone has set. It is expected that a business amounting to millions of dollars per annum will soon be done in this State under the Ransome patent.

Figures.

One ton of ore shipped from Battle Mountain station on the Pacific Railroad, beyond Humboldt district, will serve, from amongst numerons batches recently forwarded, as an example of what can he done, from what *has been* done, with low grade ores in the vicinity of convenient transportation. It assayed $75, in gold and silver, and contained 15 per cent. of copper. A firm on Battery street paid $35 for the same, to ship to Swansea. Deduct:

Cost of mining	$ 7.00
Sacking	3.00
Hauling five miles to railroad	5.00
Freight to San Francisco	12.50
	$27.50

There is left a margin per ton of $7.50. But if the ore assays more in copper, the prices offered in this city are much increased, viz., such figures as the following: For 20 per cent. copper ore $50; for 33 per cent, $85; for 35½ per cent. with only traces of silver, $94.07.

Three men can mine two tons a day, at a cost of not exceeding $16. From these figures it would appear that many mines containing ores of a low grade in silver, could he developed successfully without capital.

Emigrants on the Plains.—Ths railroad has not yet altogether driven the ox teams from the plains. The Cheyenne *Argus* recently reported 36 wagons on Crow Creek, hound to California and Arizona. Farmers who have stock and wagons which they wish to transfer to this side of the Rocky Mountains, with their families, can accomplish their object cheaper by using the emigrant road, than they can by "riding on a rail."

Iron Manufactures—Foundry Work.

The Superintendent of the Risdon Iron Works, Mr. Jossph Moore, has rscently rstnrned from his visit to Eastern and European iron manufacturing establishments, and has hrought with him many of ths latest and best improvements in machinery, tools and procssses.

At ths Risdon Works thsre are two boilers for the U. S. steamer Saranac, now undergoing repairs at Mars Island. The boilers are made on the Martin patent, and contain six furnaces each, msasnring 23 feet wids, 11 feet long by 15 iuches high, and weighing very nearly 40 tons each. There are 1,434 brass tubes in each boiler, set in perpendicnlar rows. The boilers have the water insids and fire ont, instead of being in the usual mauner of tuhular boilers. The hydraulic tests of 40 pounds per square inch has beeu successfully applied.

There is also in the shop, finishing, 10,000 feet of watsr-pipe for the White Pine Water Company, made of sheet iron, and intended to stand enormous strain; also three or four thousand feet of 22-inch pipe for the Spring Valley Water Co., of this city. This is ahout the ninth mile of pipe the Risdon Works have made for the above Company. Although pnt under a heavy pressure, they remain perfectly tight. Some excellent tools for this branch of their husiness have been gotten up expressly to enable them to manufacture work of this kind bstter and at lower rates than they would he able to do without snch special machinery.

There are also a number of boilers for stationary engines, and more for marine engines, in the manufacture of which class this Company are prominent on this coast, having at the present time six steamboats on hand—from the handy tug-hoat for light vessels, up to a heavy side-wheel, viz.:

1	side-wheel, City Ferry Company, 2 engines	22x5
1	propeller, California Dry Dock	2.22x24
1	" Capt. Kentfield	2.22x24
1	" Goodall & Neilson	1.24x24
1	" California Pacific Railroad	1.28x24

These boats have all been huilt and will he in operation in five months' time, and have all heen made nnder a pressure of other business, evidencing large resources of mon and tools.

There aro also being shipped 25 boiler-iron cars, for the Virginia and Truckeo Railroad, capable of carrying eight tona of quartz each, intended to run the quartz to "timber," or water, instead of, as has besn done, taking water and timher to quartz.

There are also four stationary engines in course of construction, besides other heavy steamboat work, making and repairing.

Important Expedition.

A military expedition is about to be sent out to examine and map out that extensive region of conntry in the Nevada, lying between White Pine and the head of navigation on the Colorado. Able geologists, mineralogists, and botanists, will accompany the sxpedition, whose reports upon their several specialties will donbtless furnish a large amount of valuable information. The region referred to is almost a *terra incognita*, although there is good reason to believe that its mineral value is fully equal to any of similar extent in the Great Basin. The geographical department especially, as well as the entire *personelle* of the expsdition, will be under the immediate charge of eminent officers of tho U. S. Engineer Corps. Gen. Thomas, who has conceived and planned this expedition, deserves the thanks of the community for this eminently practical and useful employment of a portion of the military under his command. We feel confident that important results will bs attained, and such could not have been realizsd from private enterprise.

Geo. P. Booth, of Ssymonr, was the engineer who run the first iron horse over the Pacific Railroad.

Affairs of the Mercantile Library.

A circular has been issued to the friends of the Mercantile Library Association, by the President of that body, Mr. Swain, stating, in the plainest language, that it will be necessary to raise a sum which ought not to be less than $75,000, in order to save that institution from dissolution. The elegant and commodious building which has just been erected on Bush street at a great cost, to meet what appeared to be a growing taste for letters, is burdened with a heavy debt. "A portion of that debt," says the President, "*must* be liquidated, and the expense of interest *must* be removed."

It has been repeatedly alleged that the wealthy men of San Francisco are not enterprising in discovering and watching their united interests. The charge has never been made that, upon occasion, they are also wanting in liberality. Californians love to congratulate each other in the fact that a superior average of intelligence, and a higher degree of energetic manhood is to be observed on this coast, to any other country in the world. If this generally accepted doctrine be not idle vanity—an article of newspaper commerce such as should become doubly nauseous in a land that has real cause for pride—certainly no single fact, no institution west of the Plains, could be pointed out with better effect as characteristic evidence of the truth, than the Mercantile Library of San Francisco. So central, widely-extending, and powerful has been its influence for good, from the "early days," and so genial and satisfactory has been its uniform management, that we can scarcely doubt but that the President's appeal will be very generously responded to. Amongst the public institutions of San Francisco, the Mercantile Library is our chief pride. Should the Library be allowed to become involved, let no newspaper ever again assert that California is liberal, or that her leading citizens are above even a moderate average of intelligence.

The California Medical Gazette.

We acknowledge the receipt of the June number of this journal from the publishers, A. Roman & Co. Among the especially interesting pages in it, is the first. It contains an article by Dr. Stout of this city, upon apparatus for treatment of fractured thighs,—with an engraving of a new arrangement for that purpose, devised by that gentleman himself. We are always glad to see newly-invented surgical apparatus. It suggests new relief to suffering. We wish the inventive faculty were more often exercised by the intelligent members of the profession; particularly those devoted to the surgical branch of it. It is true, that the only inducement to it is a purely philanthropic desire to relieve pain; for it is not considered exactly in character, by the members of this noble profession, to *patent* any device connected therewith. We think the idea is, in a great measure, a false one. Why should not a man who has devoted his best years to laborious and often repulsive duty, provide for his declining ones by such use of his hardly-earned experience, as shall secure his pecuniary ease? We see no reason why a false sentiment should place him at a disadvantage with his fellows, and deprive him of the reward offered by Government for the very purpose of stimulating invention and accelerating progress. We may have something more to say upon this subject at a future time.

A Few More Subscribers

Can find room for their names on our subscription books. This announcement may be interesting in connection with the fact that we next week commence a new volume of the MINING AND SCIENTIFIC PRESS. The beginning of a volume is always a good time to commence new subscriptions.

Arizona.

The hopes and prospects of this Territory, so long harassed by Indians, and hindered in its development, by weary distances of desert roads and mountains, brighten just in proportion as the probability of the speedy continuation of the Kansas Pacific Railroad along the 35th parallel. Should the companies having charge of that enterprise show signs of life during the course of the summer. Arizona will be well deserving of a visit by the speculative; for the Indians will certainly soon withdraw to farther mountain recesses, or to Mexico, and half of the territory being excellent grazing country, largely timbered, with immense tracts of fine farming land, there will be no farther drawback to the growth of permanent interests, the forfeiture of which has so especially characterized that country. The Prescott *Miner* estimates the population of Yapavai County at 3,000, and says there are within 30 miles of Prescott 200 good sized lodes containing sufficient gold to pay handsomely for working and treatment by chlorination process. The Sterling lode, for example, contains $15 to $20 in free gold. No statement need be attempted here of the rich copper, silver and lead veins of that Territory. Thanks to Ross Browne, sufficiently ample details are accessible in "Mineral Resources, etc."

The Arizonians are wearied of frontier hardship, seclusion and barbarism, and slow progress in the development of mines that ought to be valuable but are not, from extraneous causes. Geologically and Mineralogically that region does not differ much from the silver mining regions of Sonora, Chihuahua and Durango in Mexico; we are told that some of its mines were worked profitably 75 years ago.

Railroads can work wonders for countries situated like Arizona. We know now, not only how continental railroads can be built, but how they pay; and these things move rapidly under energetic hands. Arizona need not be discouraged. Her salvation is in a Southern Pacific Railroad.

Progress of the Rust.

The wheat fields in several portions of the State, appear to have been more or less injured by the rust. It made its first appearance, and has done the most damage, along the coast valleys where cold winds prevail, and where the fogs linger—in the Salinas Valley, and in the western portion of Santa Clara County. We also hear of it in some of the interior counties, as in Napa, the northeastern portion of San Joaquin, and in the southern part of Alameda. It is as yet difficult to say whether it will materially affect the general aggregate of the yield. Interested parties are evidently making an effort to spread such an idea; but the public will do well to defer yet a little longer, the formation of any definite opinion. It is curious and significant to notice from our exchanges, that summer fallowed lands, and those fields which have presented a healthy and vigorous appearance from the start, have suffered less than where the lands have been over cultivated; or are of an inferior quality for wheat growing. This fact has a significant importance when read in connection with what we have elsewhere said under the head of "Rust and Smut in Wheat."

PERSONAL.—We notice the departure for the East of Mr. Durbin Van Vleck, the engraver whose artistic productions are well known on this coast, and have been very frequently associated with the pencilings of Nahl. He will establish himself in Boston.

Mr. G. F. Deetken, of the Eureka mine sulphuret works, Grass Valley, has left for Europe, to inquire into gun cotton as an explosive and bring it to this coast, such progress having been made in the practical use of that very economical agent.

Anna Dickinson is at Salt Lake.

METALLURICAL.

RICKARD'S TAILINGS CONCENTRATON AND AMALGAMATOR.—W. T. Rickard, formerly of Gold Hill, has devised an amalgamator, which is especially useful at the same time as a slum concentrator, and which is described in the London *Mining Journal* as a U-shaped vessel of galvanized iron, some six or eight feet long and four feet wide, through which a shaft passes, carrying a series of circular copper plates, so connected as to form a continuous screw, which just dips into the bath of mercury, and keeps the mercury continually clean, and in a fit condition for catching the gold. It is necessary to clean the copper plates with a little sand and dilute sulphuric acid, wash in clean water each plate as soon as the surface is perfectly bright, and immediately after apply sodiumized mercury, made in the proportion of one part of sodium to 1,000 parts of mercury. A back and forward action of the screw dashes the particles of ore with violence, first on one side and then on the other of each amalgamated screw-plate, which soon becomes coated with gold or silver amalgam. The slum experimented upon was from Weston & Co's mill, Virginia City (upon Occidental ore), and assayed before amalgamation $29.25; after amalgamation, $11.37½—bullion obtained, $17.87½. The same slum, when tried in barrels, yielded but at the rate of $7 per ton. Mr. Rickard says, in speaking of his machine: "After trying every known machine likely to obtain the bullion from the troublesome residuum without success, I at last caught an idea from a crazy old fellow, which, with the assistance of an experienced gold amalgamator from California, enabled me to perfect a machine which has rewarded my efforts with perfect success."

PATENT FLUX.—Dr. Charles W. Moore has been engaged in smelting some of the base metal ores at Shermantown, experimentally, with his "patent flux," in a temporarily constructed cupola furnace, heated up by a blacksmith's bellows; and has shipped to San Francisco several bars assaying .560 fine. He proposes to erect extensive works at Shermantown, and promises, says the *Empire*, to "be able soon to reduce the ores to bullion at the rate of thirty-five tons per day out of 266 tons of base ore"—which is probably typographically erroneous. This flux we understand not to be a patent, but a secret. A cheap flux is like one of the many tools of a mechanic, a most valuable article in smelting when understood and used with reference to the special purpose to which it may be adapted, of course upon the mineralogical contents of the charge, but varying accordingly.

FROM MONTANA AND COLORADO we learn that Mr. Augustus Steitz, of St. Louis, is in charge of extensive reduction works at Helena; and that Mr. Stewart, at Georgetown, Colorado, is amalgamating raw low grade ores to 45 and 60 per cent.; chlorinating high grade copper and zinc ores, obtaining 75 to 80 per cent.; and smelting galena, with a result of 90 to 95 per cent; employing a working force of 12 men.

ACCIDENT TO PROF. BUNSEN.—This enthusiastic scientist has met with an accident which threatens the loss of his only remaining eye. Being engaged in preparing some pure rhodium, he had placed a quantity in the form of a finely divided precipitate, in a water bath to dry. On inspecting it some time after, he found that, owing to the carelessness of some one, the supply of water had been turned off, and the temperature of the bath too highly raised in consequence. While engaged over it, an explosion took place. Both his eyes were burned, and both hands badly torn; nevertheless the precious capsule containing the result of his experiment was not dropped, but carefully replaced upon the furnace.

The scientific world will rejoice to hear that his physician has expressed hope of saving the eye. The other has been sightless for years, in consequence of a somewhat similar explosion.

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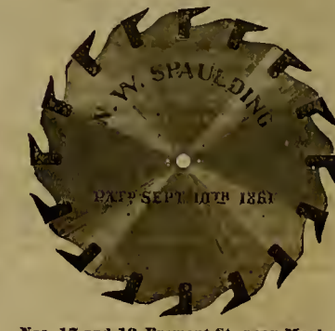

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CERTIFICATES:

United States Branch Mint, San Francisco, Cal., March 12, 1869—Messrs A. S. Hallidie & Co., Agents Morgan Crucible:—I have carefully tested the Morgan Patent Plumbago Crucibles purchased from you for the U. S. B. Mint, and cheerfully certify to their superiority and economy over all other Crucibles used by and under me. They are fully what you represent them, and I shall continue to use them in preference to any other. J. M. ECKFELDT,

Melter and Refiner, U. S. B. Mint.

Eagle Brass Foundry, 206 Fremont street, San Francisco 12th March, 1869—Messrs. A. S Hallidie & Co., 519 Front street:—Gentlemen:—We have used and tested the Morgan Patent Plumbago Crucible, for which you are agents, and pronounce them superior to and cheaper than any Crucible used by us heretofore. GREENBERG & MOORE.

Messrs. A. S. Hallidie & Co.:—We have thoroughly and severely tested in every way the Morgan Patent Plumbago Crucible obtained by us from you, and find them superior to any we have yet tried, although we have used every pot obtainable in this market, we have none equal to the above, and concede your claims for them. We think they will average 45 pourings of brass.

CALLAGHER, WEED & CO.,

California Brass Works, 125 Front street, San Francisco.

Assay Office of H. Harris, Silver City, Nevada, April 24, 1869—Messrs A. S Hallidie & Co.—Gents:—I received from you three Crucibles of the Morgan make, which I have used since their arrival, and tested by constant use. Since 1857, when in the New Orleans Mint, I have always preferred the Crucible of Dixon's make over Adus, Cantier, and Taunton, Mass. Yours I find to be not alone of more finished make, but to stand double or treble the work of Dixon's Crucibles. The No. 12—the smallest size—has stood so far 32 meltings, and is as good and sound as when received. Your Crucibles do not scale off like others; and as they are forty per cent. cheaper, I do not see why they should not be preferred by all assayers on account of durability and cheapness. Yours respectfully, H. HARRIS.

On hand and for sale by the Agents,

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18v18-9p 519 Front street, San Francisco

To News Agents.

From July 1st, 1869, News Agents desiring five or more copies weekly of the MINING AND SCIENTIFIC PRESS, will be furnished direct from the office, at a reduced price from former rates. Orders for a less number can best be supplied through San Francisco wholesale agents.

Medical Practice and Quacks.

We have received the June No. of the *Pacific Medical and Surgical Journal*, from the publishers, Messrs. Bancroft & Co. Besides the usual amount of such original and selected matter as addresses itself more especially to the members of the profession, we always find something in this journal which is of interest to the general public. We copy a little anecdote from the present number:

Almost the pioneer among advertising quacks in California, was "Doctor" J. C. Young. He was totally destitute of all pretensions to medical knowledge; having worked as an upholsterer up to the moment he was transformed into a doctor. More shrewd in one respect than most of the breed, he did not attempt to practice medicino, but always employed some one who did the prescribing. The writer of this article was once called in consultation with Dr. C—, a regular practitioner who had emptied his purse in a long series of "experiments on alcohol." On arranging for a second visit, Dr. C— was unable to attend between eight in the morning and six in the evening. Such a strange announcement required an explanation, which was given as follows: "I am occupied in the service of Dr. Young. It is mortifying to me as a regular graduate to confess it, but the necessities of my family have compelled me to take the position. Dr. Young gives me $250 a month for prescribing for his patients, and I am under obligation to remain in his office from eight in the morning till six in the evening." "And does not Young prescribe for his patients?" "Oh, no! I thought everybody knew that. He sits in the front office at his desk, keeping the books. When the patients enter, he receives them and passes them into my room. I examine and prescribe for them, they supposing always that I am Doctor Young. I give them the prescription, which they take to Young, and he settles with them and receives the money. I pass for the Doctor and he for my olerk."

This is better than we had supposed. "Doctor" Young was not, after all, totally depraved. While we do not wish to be understood as recommending the above dodge as a new and ingenious form of speculation, we may say that we do hope that all future adventurers in the medical ranks may have sufficient good sense and sufficient humane feeling, to do as Young did, and employ some one who has at least been through the regular steps of a medical training, and is therefore, not wholly in the dark.

INCREASE OF AUSTRALASIA GOLD YIELD. There seems little reason to doubt that the yield of Australasian gold is on the increase, this result being attributable, as we shall show presently, to the discovery of several new fields. In the year 1868 we received Australasian gold to the value of 6,989,594*l.*, as compared with 5,801,207*l.* in 1867, 6,839,674*l.* in 1866, 5,051,170*l.* in 1865, 2,656,971*l.* in 1864, 5,995,368*l.* in 1863, 6,704,753*l.* in 1862, 6,331,225*l.* in 1861, 6,719,000*l.* in 1860, and 8,624,566*l.* in 1859. It will be seen that the total receipts of Australasian gold for the 10 years ending 1868 inclusive were altogether 61,713,528*l.*, 1868 having made the largest yearly contribution to this aggregate, with the exception of 1859. Although the yield of Australasian gold has been increasing of late, it had been declining for some time previously, the aggregate receipts for the five years ending 1863 inclusive having been 34,374,912*l.*, while for the five years ending 1868 inclusive, the corresponding aggregate was only 27,338,616*l.*—*London Mining Journal.*

THE ATLANTIC TELEGRAPH—DOUBLE LINE COMPLETE.—By the completion of the new duplicate line from London to Valentia, on May 21, the two Atlantic cables are now enabled to be worked together; and one is used exclusively for sending dispatches one way and the other for sending them the other way. The regular communication between New York and London ought now to be almost instantaneous.—*Am. Artisan, June 2d.*

ENGLISH PATENT LAWS.—The question of the abolition of the Patent Laws was recently discussed in the British Parliament, and the London *Times* supports the measure. That journal has heretofore expressed its opinion very decidedly against the policy of giving pateuts for new inventions.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,

SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, in the mining or milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

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Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hausbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.

San Francisco, May 1, 1868. 18v16tf

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Slip Work of all kinds, Spikes, Shenthing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

I. P. CALLAGHER. J. H. WEED V. KINOWELL.

9v13-1y

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Manufactures Foundry Facings constantly, from choice coals. Bituminous, packed in tight sacks. Anthracite and Charcoal ground together or separate, packed in whole or half barrels. Black Lead, Coke and Soapstone ground to order. Foundrymen located far from choice material, can rely on having superior Facings forwarded to order.

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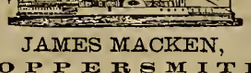

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All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

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129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured 24v16qr

CITY IRON WORKS COMPANY.

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Steam Engine Builders and Makers of all kinds of Machinery.

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Miners' Foundry

—AND—

MACHINE WORKS

Nos. 245 to 255 FIRST STREET,

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HOWLAND, ANGELL & CO.,

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Manufacturers of Machinery for

QUARTZ MILLS. FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds.

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MINING PUMPS, HOISTING WORKS,
OIL WELL TOOLS, ROCK BREAKERS,

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE,

The most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,
13v14-qr **CYRUS PALMER.**

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Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

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McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers**, with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

UNION IRON WORKS,

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WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

GROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for now and old Cylindors, manufactured to order.

Front Street, between N and O streets,

14v11 SACRAMENTO CITY

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Iron and Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,000,000.

Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

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All work in their line attended to with promptness and dispatch.

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Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 24v17-qy

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MACHINE WORKS,

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Between Main and Spear.

New and second-hand

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Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

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Lathes, Drills,

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PRACY'S

New and Improved

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The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

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Shingle Machines

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Particular attention paid to Repairing.

☞ All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

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Cyclops Engine and Machine Works,

Construct and Repair every description of

Stationary and Marine Engines, Mill and Mining Machinery.

Special attention given to Repairing Machinery.

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Nos. 18 and 20 Fremont street, near Market, San Francisco.

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Wrought Iron Girders, and all kinds of Housesmith work, Bridge, Prison

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IMPROVED FIRE-PROOF SAFES,

FIRE AND BURGLAR-PROOF SAFES,

Of a superior make. manufacturer of the celebrated

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BANK VAULTS AND SAFES,

Of every description, made to order at short notice. A large stock of SAFES of all kinds constantly on hand. Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the

1v17tf United States

$500 WANTED—TWENTY MEN WITH $500 EACH—must be men of the right stripe—to join an expedition that is organized in this city.

CARLOS O'DONNELL'S

California Cordial Tonic,

—OR—

Wild Cherry Bitters.

TRADE C. O. D. MARK.

This elegant preparation is acknowledged by all who have used it to be the most efficient remedy for every disease of the

STOMACH AND BOWELS,

Yet introduced to the notice of the public. Immediately on taking a dose of it, the patient will find a genial glow pervading his entire system, and its steady use for a short time will be followed by a healthy appetite and a good digestion, even in the case of the most confirmed dyspeptic.

To all who are suffering from

INDIGESTION,

DYSPEPSIA,

DYSENTERY,

DIARRHŒA,

NERVOUS AFFECTIONS,

Or any of the manifold troubles caused by a diseased action of the stomach, this remedy is confidently recommended as a safe and certain cure.

N. B. JACOBS & CO., Sole Agents,

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Pacific Mail Steamship Co's

STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK:

On the 10th, 17th and 30th of each month that has 30 days.

On the 10th, 18th and 30th of each month that has 31 days.

When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 17th falls on Sunday, they will leave on the Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departure of the 17th or 18th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South Americs. Through tickets can be obtained.

The following Steamships will be dispatched on dates as given below:

June 1—GOLDEN CITY..... Capt. Wm. F. Lapidge,
Connecting with ARIZONA, Capt Mantry.

June 9—MONTANA..... Capt E. S. Farnsworth,
Connecting with ALASKA, Capt. Gray.

June 18—COLORADO.....Capt. Wm. H. Parker,
Connecting with HENRY CHAUNCEY, Capt. Connor.

June 30—CONSTITUTION.....Capt. Wm. H. Hudson,
Connecting with ARIZONA, Capt. Maury.

Passengers berthed through. Baggage checked through. One hundred pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock.

Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets to Liverpool by the "Inman" and "National" Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where maps also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—If desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

For Merchandise and Freight to New York and Way Ports, Company's Form of Bill Lading only used.

No Freight will be received on board after 2 P. M. of the day prior to the steamer's departure.

The Steamship CHINA, Capt. Warsaw, will be dispatched for YOKOHAMA and HONGKONG on FRIDAY, June 4th, 1869, at noon connecting at YOKOHAMA with the steamer NEW YORK for SHANGHAI.

For passage, freight and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

To Quartz Mining Companies.

To be sold positively within the next three months—the MINES, ENGINE, MILL, and entire Machinery of the TEMPLAR NO. 2 Quartz Mining Company, located at Indiana Ranch, Yuba County, consisting of—

One Steam Engine, 60-horse power, made by Burden, Brooklyn, New York.

Two large Rollers, in complete order.

One Eight-stamp Battery.

One Chile Mill.

One Cornish Lift-Pump, 6 inches, of superior make and finish.

280 feet of 5 inch Iron Suction Pipe.

One large Water Tank.

And also all of the necessary machinery, with Belting, Feed Pumps, Hose, Turn Tables, Cars, Rolls, Track Iron, Flumes, Plates, with Blacksmith Shop and all Tools and requisite implements to be found in a large and first class quartz mill.

The Company having ceased operations intend selling off their effects as speedily as possible.

For Particulars as to price, etc., address, by letter or otherwise, L. W. CAMPER, at Indiana Ranch; GEORGE B. HORNISH, Marysville; or E. W. HASKELL, Pacific Fruit Market, San Francisco. 24v18-3m

WINDMILL

For Sale Cheap!

Entirely New and of Modern and Approved Style.

For particulars apply to or address this office.

THE CHARLES HARKNESS

Patent Wax Candles,

Have new an established reputation on this Coast. Their uniform quality, much superior to any Adamantine Candles, is

Well Known to Miners.

They burn longer and better than other kinds, and are really the most economical Candles in the market.

FREEMAN, SMITH & CO.,
110 California street.
Manufacturers' Selling Agents. 21v18-3m

The Perfection of Prepared Cocoa.

MARAVILLA COCOA.

Sole Proprietors—TAYLOR BROTHERS, London.

The Cocoa (or Cacao) of Maravilla is the true Theobroma of Linnæus. Cocoa is indigenous to South America, of which Maravilla is a favored portion. TAYLOR BROTHERS having secured the exclusive supply of this unrivalled Cocoa, have, by the skillful application of their soluble principle and elaborate machinery, produced what is so undeniably the perfection of Prepared Cocoa, that it has not only secured the preference of homœopaths and cocoa-drinkers generally, but many who had hitherto not found any preparation to suit them, have, after one trial, adopted the Maravilla Cocoa as their constant beverage for breakfast, luncheon, etc.

"A SUCCESS UNPRECEDENTED."

[See following extract from the Globe of May 14, 1868.]

"Various importers and manufacturers have attempted to attain a reputation for their prepared Cocoas, but we doubt whether any thorough success had been achieved until Messrs. Taylor Brothers discovered the extraordinary qualities of "Maravilla" Cocoa. Adapting their perfect system of preparation to this finest of all species of the Theobroma, they have produced an article which supersedes every other Cocoa in the market. Entire solubility, a delicate aroma, and a rare concentration of the purest elements of nutrition, distinguish the Maravilla Cocoa above all others. For homœopaths and invalids we could not recommend a more agreeable or valuable beverage.

Sold in packets only by all Grocers, of whom also may be had Taylor Brothers' Original Homœopathic Cocoa and Soluble Chocolate, Steam Mills, Brick Lane, London. 6v18-6m

A Long Desired Article

FOR CLEANING THE HEAD AND HAIR. THE CLEANing of the head and hair has been the subject of consideration for a long time. This object will be accomplished by using

CAMILLE CHAMPOO,

which not only does away with the poor soap so offensive to use, and so injurious to the hair, but it cleans the head, strengthens and beautifies the hair, preserves the color, and prevents baldness. It is cooling in nature, and can be used with safety and reliance on the smallest infant. Price 50 cents per bottle. Prepared by EMERTON & LUELLING, 273 Mission street, San Francisco, Cal.

HEATHFIELD & BOOLE, Wholesale Druggists, 206 and 208 Battery street, San Francisco, Sole Agents for the Pacific Coast. 24v18-3m

Ayer's

Hair Vigor,

For restoring Gray Hair to its natural Vitality and Color.

A dressing which is at once agreeable, healthy, and effectual for preserving the hair. *Faded or gray hair is soon restored to its original color with the gloss and freshness of youth.* Thin hair is thickened, falling hair checked, and baldness often, though not always, cured by its use. Nothing can restore the hair where the follicles are destroyed, or the glands atrophied and decayed. But such as remain can be saved for usefulness by this application. Instead of fouling the hair with a pasty sediment, it will keep it clean and vigorous. Its occasional use will prevent the hair from turning gray or falling off, and consequently prevent baldness. Free from those deleterious substances which make some preparations dangerous and injurious to the hair, the Vigor can only benefit but not harm it. If wanted merely for a

HAIR DRESSING,

nothing else can be found so desirable. Containing neither oil nor dye, it does not soil white cambric, and yet lasts long ou the hair, giving it a rich glossy lustre and a grateful perfume.

Prepared by Dr. J. C. Ayer & Co.,

PRACTICAL AND ANALYTICAL CHEMISTS,

LOWELL, MASS.

PRICE $1.00.

Sold by all druggists and dealers in medicine everywhere. Crane & Brigham, San Francisco; R. H McDonald & Co., Sacramento, General Agents. 25v18eow4m

That will resist the extremes of heat and cold without liquefying or hardening.

It is therefore peculiarly adapted to the varied climate of this coast, especially localities where THE WEATHER BECOMES EXCESSIVELY HOT, causing oil and all other kinds of grease to run from the axle, retaining the proper position. It remains soft until exhausted, leaving no deposit of GUM, TAR OR PITCH. Its superior lubricating properties, durability and cheapness have been tried and approved by the CENTRAL PACIFIC AND OTHER RAILROADS, STAGE PROPRIETORS, STABLE KEEPERS, TEAMSTERS, CONTRACTORS, MILLMEN, FARMERS, and many others who prefer to

USE NONE BUT THE BEST.

It being prepared by a peculiar CHEMICAL COMBINATION OF OIL, previously freed from gum or other deleterious substances, it must be obvious that by its use friction will be reduced to the lowest point. We feel assured that all desiring A NO. 1 LUBRICATOR will give this the preference over any other Grease IN THE MARKET.

Sold by the Trade generally, and at the Factory, 100 Commercial street, San Francisco.

2v18-3m PETTIT & CO.

LEA & PERRINS'

CELEBRATED

WORCESTERSHIRE SAUCE

Declared by connoisseurs to be the only

GOOD SAUCE.

The success of this most delicious and unrivalled condiment having caused certain dealers to apply the name of "Worcestershire Sauce" to their own inferior compounds, the public is hereby informed that the only way to secure the genuine, is to ask for

Lea & Perrins' Sauce,

and see that their names are upon the wrapper, labels, stopper, and bottle.

Some of the foreign markets having been supplied with a spurious Worcestershire Sauce, upon the wrapper and labels of which the names of Lea and Perrins have been forged, L and P give notice that they have furnished their correspondents with power of attorney to take instant proceedings against Manufacturers and Vendors of such, or any other imitations by which their right may be infringed.

Caution against Fraud.

Ask for LEA & PERRINS' Sauce, and see name on the Wrapper, Label, Bottle, and Stopper.

Wholesale and for Export by the Proprietors, Worcester; Crosse & Blackwell, London, etc., etc.; and by Grocers and Oilmen universally. Agents, CROSS & CO. San Francisco. 3v18-6m

SAN FRANCISCO, May 5, 1869.—MESSRS. DEWEY & CO. Gentlemen:—Allow me to express to you many thanks for services rendered me in procuring my patent, which has just come to hand. I would also say that your work has been faithfully done, and your advice and representations have in all cases been honest and truthful.

Respectfully, GEO. INWOOD.

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RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention

PAID TO

CONSIGNMENTS OF GOODS.

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CARD PICTURES,

ONE DOLLAR PER DOZEN,

And Photographs, Ambrotypes and Sun Pearls, by first class artists, at the lowest rates,

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11v18-3m

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☞Sole Agents for Burslow's Metallic Burial Cases and Caskets. 25v14tf

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BANK OF SAVINGS,

No. 225 Sansome Street.

Interest paid on Deposits. Money Loaned on Real Estate.

H. DUTTON, President.

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BUCKELEW & CO.,

Importers and Jobbers of

Choice Teas, Groceries and Provisions,

520 Market street,

Below Montgomery street. 17v18-3m

W. T. ATWOOD,

PURCHASER OF

COPPER ORES, BARS, MATT Etc., Etc.,

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The highest market price paid for ores assaying 10 per cent. and upwards. 23v17qr

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C. H. WAKELEE & CO.,

601 California street, S. W. Corner Kearny street, buy and sell Farms and City Real Estate. Parties wishing to invest will find it to their interest to call on the . 13v18-3m

Mining Property for Sale.

A Two Thirds Interest

OF THE

Golden Rule Mining Company's

Claims and Mill,

Situated in Tuolumne County, California, two and a half miles south of Jamestown, on the Great Mother Quartz Lode. A good 15-stamp Water Power Quartz Mill is situated on the property, with a never-failing supply of water, as can be shown by the last four years continual running. This Claim has three parallel Ledges, from 50 to 100 feet apart, averaging from two to six feet in width, with a length of six hundred feet. They are so situated that a tunnel has been run through them at right angles, making a surface drainage of from seventy to eighty feet in depth on the mine. The mine is well ventilated by shafts from the surface, and well timbered so far as worked. In the mine are steam Hoisting Works, capable of hoisting from a depth of 300 feet. A force of thirteen men only are required to keep both mill and mine running regularly.

On the surface and flats for a distance of 500 feet from these veins, the ground or surface was mined by placer miners, in former years, producing from two to five ounces per day to the man, during the season when water could be obtained, which fact goes to prove that a heavy deposit of ore was once contained in the crippings of these shutes, which, by all former and present theories of deep mine workings, came from below, indicating that when sunk upon to a proper depth, the lead will develop a mine equal to the Amador or Eureka.

This claim has paid its 19th regular dividend of $1,500 each, during the past four years, besides all the construction and other expense account, and has levied no assessments during the same time, and at present has on hand $8,000 in the Treasury, and no debts.

The last level 150 feet from the surface rock, averaged $7 per ton, on which was a profit of from $1 to $1 50 per ton. The length of the two shutes of ore on the east vein, and the only one worked upon, has been about 200 feet.

Now I propose to sell two thirds of this valuable property for $16,000, cash; and any party who desires to purchase a property of this kind—which theory has proven that is required depth, on well known shutes of ore, for a sure fortune—can obtain a chance here, providing he or they will go down a sufficient depth. No purchaser is solicited unless he first goes and examine the mine, or sends a mining engineer in whom he or she have confidence, to indorse what he may think proper of what has been here stated.

For any further particulars, direct by letter to Wm Bosworth, San Francisco, P. O. Box 1978, or at my office, room No. 5, over Donohoe & Kelly's Bank.

22v18tqr WM. BOSWORTH.

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PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office San Francisco.

[Continued from Page 401.]

underground workings, to the left of G, the lighter shaded part was very rich chloride, and the darker shaded less rich, but is also a worked out, timbered, argentiferous epace. In the open cnt to the right of G, there is exposed a bank or quarry of the height from K, the Keystone shaft-entrance, to the surface line N, in which there are less rich argentiferous spots in the breccia above the bonanza proper, represented by a similar ore ehading.

In the plane of our section there have been fonnd, accordingly, two bodies of ore, at the levels of K and H; while on entering shaft No. 1 and descending along the dotted lines to L, representing another eection across the vein 240 feet farther west, there aremet with, at nearly the same levels, two similar bodies, the upper one of which has been proven to be continuous, but not in the same extraordinary richness, by a level which was run westwardly in from the open cnt (indicated hy the black arch between G and K) to the original Eherhardt shaft.

The sonth wall is nearly perpendicular, as represented; the north wall dips S. about 82°. All along the drift F, ou the north wall, there is a clayey seam of from one to two inches in thickness, which assays a small amount in silver. At its western end, there are to be seen, overhead, cave-like openings indicating the former presence and action of apparently warm waters.

It is evident that the entire mass of matter between the two walls cannot be called *one* true fissnre vein. If the two fissnres have any true relationship to each other,—which is not necessary to imply the permanence of the mine,—that relationship must appear in depth; the breccia hetween the walls would, in that case, be a gigantic and very much battered horse. Either of the two fissures may be a true vein in depth. The sonthern one was two feet wide at B, and filled with breccia, but narrowed to a crack of a few inches in solid rock at 80 feet depth.

The simplest method, perhaps, by which it will he possible to account for the character of the Eberhardt deposit, is by supposing—1st, That the two fissures, and the breaking np, and some probable faulting, first took place by the usual causes of such phenomena; 2d, That acid or solfataric waters circulated through the crevices in snch a manner as to dissolve out irregular openings in the breccia; 3d, That there happened snbsequent flows of waters bearing sulphate or chloride of silver—probahly the latter. A change from an acid to an alkaline character in the water, or the reverse, would be sufficient to account chemically both for solution and for precipitation.

Some of the dimensions are given as follows: Length of ore house, 175 feet; depth in Blue Bell shaft to the hase of the stock-work galleries, 40 feet; in Defiance shaft, 40 feet; depth of open cnt near the gate, 35 feet; of Keystone shaft, to the level of the drift F, 80 feet; of the deposit L, 170 feet; of the original Eberhardt shaft, 40 feet; length of tunnel thereto, from open cut, 80 feet. The dimensions of the upper stockwork as worked out, which is all that is generally known of the Eberhardt mine, are, according to the survey of Westcoat & Mason, approximately — underground, 80×32½×2¼ feet=6,480 cubic feet; and in the open cut, probably about the same, making a total of 13,960 cubic feet.

Out of 400 assays taken indiscriminately on this level with a view to obtaining a general average, the result per ton was $1,500. Pure chloride of silver is 75 per cent. silver and 25 per cent. chlorine. Number of men now employed in the mine, 115. Stamps, at Drake and Eberhardt mills, owned hy the Company at Shermantown, 2½ miles distant, 8 and 10 respectively—working 15 tons in the two mills per day. Owners of the Eberhardt: Messrs. Applegarth, Drake, Barris, Sproul and Crawford, one sixth each; and Messrs. Turner and Willard together the remaining sixth.

THE Chinese possess the secret art of changing the natural yellow of the hamboo to a chestnut, black, etc.

The black bamboos are cultivated as rare cnriosities in the gardens of the wealthy, like other rare plants.

ADDRESS WANTED.—We are desirous of communicating with Allen Oliver, lately of Jamestown, Tuolumne County, California. tf

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidentaland Cosmopolitan Hotels, San Francisco. 21v17-4m

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DR. HALL has just returned from Europe after an absence of one year, during which time he has visited England, Ireland, France and Germany, and has held consultations with the following eminent physicians: Drs. Curling, Druit, Lee, Parker, Acton, Aitken, Churchill, Ricord, Vetpean, Boech, Sperino, and Hewitz. Many of the cases in which he held consultation with the above named eminent physicians were, we are sorry to say, those of Americans. Americans will not now be under the necessity of leaving the Pacific Coast for Medical Treatment, for Dr. HALL has brought with him every new mode of treatment known to the greatest physicians of the world. To old residents of the Pacific Coast it is needless to mention the address; to newomers, however, it is necessary to mention that he may be found at the American Surgery and Dispensary, 402 Montgomery street, opposite Wells, Fargo & Co's, San Francisco. 21v18 3m

Pain Killer.—We beg leave to call the attention of the public to this long celebrated and unrivalled Family Medicine. The Pain Killer is a purely vegetable compound, and while it is a most efficient remedy for pain, it is a perfectly safe medicine even in the most unskillful hands. For Summer Complaint, or any other form of bowel disease in children or adults, it is an almost certain cure, and has without doubt been more successful in curing the various kinds of Cholera than any other known remedy, or even the most skillful physician. In India, Africa and China, where this dreadful disease is even more or less prevalent, the Pain Killer is considered by the natives, as well as European residents in those climates, a sure remedy.

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(*) Besides its Medicinal qualities, this Mineral Water is a most agreeable beverage at meals, or at any time of the day, pure or mixed with Water, Beef Broth, Red Wine, White Wine, Champagne, Brandy, Milk, etc.

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Regular courses of study, leading to the degree of Bachelor of Philosophy, conferred by Yale College, are arranged as follows: 1—CHEMISTRY AND MINERALOGY. 2—CIVIL ENGINEERING. 3—MECHANICAL ENGINEERING. 4—MINING ENGINEERING AND METALLURGY. 5—AGRICULTURE. 6—NATURAL HISTORY AND GEOLOGY, and 7—SELECT COURSE.

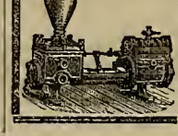
Advanced students are also admitted to optional courses, and if already College graduates, are received as candidates for the degree of Doctor of Philosophy.

Tuition, $125 per year of forty weeks.

The Libraries, Museums, Laboratories and Apparatus, accessible to students, are varied and extensive.

For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

Blake's Patent.



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26v18-4t

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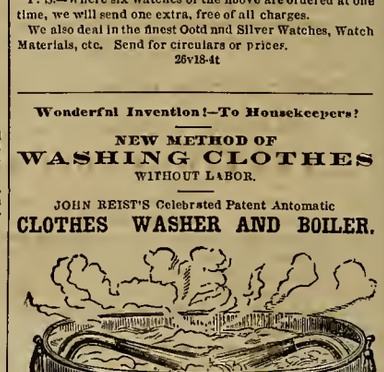

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Inventions and Patents.

New Patents Issued to Pacific Coast Inventors.

[From Official Reports to DEWEY & CO., U. S. and Foreign Patent Agents, and Publishers of the Mining and Scientific Press.]

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For the Week Ending June 15th.

Automatic Fan.—David Aaron, San Francisco, Cal.—91,297.

I claim giving the fan E, pivoted at *b*, a quick return-motion by means af the slolted bar G, wrist-pin *a*, and disk D, driven by a spring and gears, or other maving power, substantially as set forth.

This iuvention consists in connecting a fan to a train of gears in such a manuer that it will be given a fanning motion by the movement of the train, and is especially adapted for nse in the sick-room. It will also bo a delightful breeze generator during the heated months of summer, producing the desired effect automatically, without any effort on the part of the person being fanned.

Steam Engine Stop Valve.—William H. Howland, San Francisco, Cal.—91,337.

I claim, 1. The coustructian and arrangement af the above-described valve, with reference to the case A, provided with the recess E, and the ports K and J, substantially as specified.

2. The aoft-metal packing *c*, when arranged longitudinally through the face of the arms F, substantially as described.

The object of this p.resent invention is to provide an improved cock which may be used as a gaugo-cock for steam boilers, or an oil cup which shall introduce a certain quantity of the lubricant, at any time. It may also be nsed as a faucet for beer and other liqnids, throttle-valve for steam pipes. and for all purposes where an ordinary stop-cock is used, bnt with the advantage of always remaining tight without being tapered, while it is not liable to become fast in its seat, and can be constructed at a much less cost than other cocks.

Steam Plow.—Linus Stewart, San Francisco, Cal.—91,383.

I claim, I, The arrangement of the revolving cutters within a supplementary frame, all in the same line, at right angles to the line af travel, and sa placed that the curves described by the arms ar blades *a1 a1* may intersect each other, substantially as described.

2. The horizontal connecting-shaft G, united to the shafts *a* and *a2*, by universal joints *b b*, substantially as and for the purpose described.

This invention relates to improvements in steam or locomotive plow and cultivators for turning and pulverizing the soil and preparing it for the different purposes of agriculture. In this plow the soil is cut and turned by plow-shaped cutters or arms arranged around a central hub. These revolving plows are carried at the rear of the machine upon horizontal shafts, inside of a movable supplementary frame, and are operated by gearing connected with the engine, which is carried upon the frame of the plow. These plows or cutters cut the soil transversely to the travel of the plow. The supplementary frame inside of which the cutters revolve, is raised or lowered by a novel contrivance, so that the plows can almost instantly be raised out of the ground when necessary, in order to avoid any obstruction which may he in the way. The horizontal shafts which transmit the motion to the cutters, extend almost the entire length of the plow, and are made in sections and connected together by universal joints, so that they will accommodate themselves to any elevation or depression of the cutters.

The Correct Figures.—A number of errors relating to figures have crept into our print unavoidably, that demand correction. In the issue of June 12th, the first undercurrent sluice at the American mine yielded from $300 to $800 to the *run*, not to the man; and the last one $50 por *month*, instead of to the ton. The hight of the channel above the present Yuba is about 750 feet instead of 1,500.

The greatest fault known to which we can point authoritatively (samo date, on the Geology of Treasure Hill) is not a *mile* vertically, but a quarter of a mile, or 1,320 feet; see article "Fault" in Humbles' Dictionary of Geology.

M. Michotte, of Brussels, has purchased all Rosinni's unpublished works for 150,000 francs.

Company Transactions.

New Incorporations.

The following new companies have been incorporated:

Excelsior S. M. Co.—White Pine. June 24th. Capital stock, $1,600,000.

San Fernando Tunnel and S. M. Co. White Pine District.

Washtello M. Co.—White Pine District.

Potosi Tunnelling Co.—White Pine District.

California and Nevada Smelting and Reduction Works.—Nevada. Capital stock, $100,000.

Petaluma and Cloverdale Railroad Co.—June 22d. Capital stock, $1,400,000. Directors: William Zaitman, W. D. Bliss, H. T. Fairbank, F. W. Lougee and Alex. McCuno.

Haywood Park H. A.—June 24th. Capital stock, $55,000.

Larkin and Greenwich Street H. A. June 24th. Capital stock, $6,000.

Menlo H. A.—June 18th. Capital stock, $74,760. Trustees: J. D. Fry, T. L. Thever, E. Martin and S. P. Middleton.

Meetings, Elections, Etc.

Spring Valley Water Works.—June 2d. Trustees: John Parrott, Lloyd Tevis, W. F. Babcock, Charles Mayne, J. D. Walker, N. G. Kittle and Charles E. McLane. W. F. Babcock, President; and H. Watson, Secretary.

Silver Wave M. Co.—June 2d. Trustees: M. J. McDonald, W. J. Williams, W. N. Hawley, L. J. Lewis and C. W. Fox. President, W. J. Williams; O. D. Squire, Secretary.

Alpha Consolidated M. Co.—June 21st. Trustees: J. D. Fry, Thomas Bell, A. Hayward, L. Gerstle and Thomas Sunderland.

Pogonip and Othello M. Co.—June 21st. Trustees: F. F. Low (President), M. Livingston, Geo. W. Beaver, and Geo. Oulton (Superintendent). W. W. Stetson, Secretary and Treasurer.

Oakland North S. M. Co.—June 18th. Trustees: John Gray, J. H. Alderson, S. E. Oakley, G. W. Stewart and E. O. Brown. John Gray, President; and J. M. Buffington, Secretary and Treasurer.

Mahogany from Central America.—Upwards of three hundred large mahogany logs may he seen at Hobbs, Gilmore & Co's box factory on Market street. They came from Central America, where a large supply can be obtained for this market at a much less cost than similar wood from the East.

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Mining and Scientific Press.

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David Sierra,
D. O. Mills,
I. Friedlander,
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H. M Newhall,
G. T. Lawton,
Miles B. Sweeny,
Chas. Mayne,
E. L. Goldstein,
J. O. Earl,
Lloyd Tevis,
Thos. H. Selby
Adam Grant,
Alpheus Bull,
S. M. Wilson,
D. J. Oliver,
W Scholle,
Thos. Brown,
Chas. Main,
Chas. R. Peters,
Oliver Eldridge,
J. B. Roberts,
J. C. Wilmerding,
P. L. Weaver,
Wm. H oper,
J. W. Clark,
A. Hayward,
T. L. Barker,
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Chas. Meyer,
Chas. E. McLane,
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ANDREW BAIRD, Marine Secretary.
4v81tf H. H BIGELOW, Gen'l Agent

New Mining Advertisements.

Evening Star, No. 1, Silver Mining Company.

Location of Works: White Pine District, White Pine County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of June, 1869, an assessment of ten cents per share was levied upon the capital stock af said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 302 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Saturday, the thirty-first day of July, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the twenty-first day of August, 1869, to pay the delinquent assessment, together with costs of advertising and expenses af sale. By order of the Board af Trustees.

WM. H. WATSON, Secretary.

Office, Room No. 6, No. 302 Montgomery street, San Francisco, Cal. je26

North Star Gold Mining Company.—Location

of Works: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of June, 1869, an assessment (No. 1) of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 10 second floor of No 402 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on Friday, the ninth day of July, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the thirtieth (30th) day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary.

Office, room No. 10 second floor of No. 402 Montgomery street, San Francisco jun5

Mining Notices—Continued.

French Silver Mining Company.—Location of

Works: White Pine District, (formerly Lander County), State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of May, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. certificate.	No. Shares.	Amount.
W Reynvaan	49	25	$1 25
Louis Francoui	7	1050	52 50
Louis Francoui	9	1150	57 50
Louis Francoui	50	2250	112 50

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of May, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, California, on the twenty-eighth day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. je12

Willimantic Silver Mining Company. Location

of works: White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of May, 1869, an assessment of twenty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, at his office, 418 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of July, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the tenth day of August, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, 418 California Street, San Francisco. je26

Notice.—The Annual Meeting of Stockholders

of the "Kewanee Silver Mining Company," for the election of Trustees and the transaction of any other important business, will be held at the office of the Company, No. 211 California street, on SATURDAY, July 10th, 1869, at 3 o'clock P. M.

EDWARD BARRY, Secretary.

June 10th, 1869. je12

Daniel Webster Mining Company.—Location

af Works: White Pine County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account af assessment levied on the seventh day af April, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Black, J J	27	50	$5 00
Black, J J	28	40	4 00
Black, J J	29	50	5 00
Black, J J	30	500	50 00
Brewer, Wm	53	10	1 00
Brewer, Wm	54	10	1 00
Brewer, Wm	55	5	50
Coupland, W F	71	100	10 00
De Ro, Pine, Jr	85	50	5 00
Evatt, W J	26	10	1 00
Farrington, Chas L	157	100	10 00
Hentz, A H	105	10	1 00
Hentz, A H	106	10	1 00
Hentz, A H	107	5	50
Jackson, Andrew	31	13	1 30
Jackson, Andrew	33	25	2 50
Jackson, Andrew	34	25	2 50
Jackson, Andrew	35	25	2 50
Jackson, Andrew	36	13	1 30
Jackson, Andrew	37	25	2 50
Jackson, Andrew	39	400	40 00
Jackson, Andrew	40	150	15 00
Jackson, Andrew	41	100	10 00
Jackson, Andrew	43	150	15 00
Jackson, Andrew	108	10	1 00
Jackson, Andrew	109	10	1 00
Jackson, Andrew	110	12	1 20
Jackson, Andrew	111	17	1 70
Proeschold, Chas	78	50	5 00
Struhle, Henry W	72	50	5 00
Struhle, Henry W	73	100	10 00
Struhle, Henry W	74	100	10 00
Struhle, Henry W	75	100	10 00
Struhle, Henry W	76	100	10 00
Stetson, Geo D	61	25	2 50
Stetson, Geo D	62	25	2 50
Stetson, Geo D	63	25	2 50
Spelman, John	77	50	5 00
Schord, L G	56	25	2 50
Taylor, Holmes	60	50	5 00
Taylor, Haines	65	100	10 00
Thompson, Ira D	100	50	50 00
Thompson, Ira D	101	25	2 50
Thompson, Ira D	102	25	2 50
Thompson, Ira D	103	25	2 50
Thompson, Ira D	104	300	30 00
Wigmore, James	50	10	1 00
Wigmore, James	51	10	1 00
Wigmore, James	52	5	50

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of April, 1869, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 418 California street, San Francisco, on the thirty-first day af May, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs af advertising and expenses of sale.

C. A UHRIO, Secretary.

Office, No. 418 California street, San Francisco. my15

Postponement.—The above sale is hereby postponed until Wednesday, the thirtieth day of June, 1869, at the same hour and place. By order of the Board of Trustees.

je5 O. D SQUIRE, Secretary.

Gold Hill Tunneling Gold and Silver Mining

Company.—Location: Gold Hill, Storey County, State of Nevada.

The Fifth Annual Meeting of the Stockholders of the above named Company, for the election of Trustees to serve for the ensuing year, will be held on SATURDAY, the seventeenth day of July, 1869, at 3½ o'clock P. M., at their office, 414 California street, San Francisco, Cal.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco je19

I. X. L. Gold and Silver Mining Company.—Location af Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of May 1869, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, (up stairs) Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of June, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fourteenth day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. my22

Silver Sprout Mining Company.—Location of

Works and Mines: Kearsarge District, Inyo county, Cal.

Notice.—The Annual Meeting of the Stockholders of the Silver Sprout Mining Company will be held at the office of the Company, No. 408 California street, San Francisco, on TUESDAY, the twenty-ninth day of June, 1869, at 12 o'clock M., for the election of Trustees to serve for the ensuing year, and for the transaction of other business.

T. B. WINGARD, Secretary.

San Francisco, June 4, 1869. je5

Marlborough Silver Mining Company.—Location of Works: White Pine District, (formerly Lander County), State of Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the fourth day of May, 1869, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J McDonald, Jr	16	2000	$100 00
W Reynvaan	71	25	1 25
Louis Francoui	7	1050	52 50
Louis Francoui	12	1150	57 50
Louis Francoui	72	2250	112 50
Warren J Lockhart	unissued	2000	100 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of May, 1869, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 502 Montgomery street, Room No. 3, San Francisco, California, on the twenty-eighth day of June, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

AUG. DuPRAT, Secretary.

Office, No. 502 Montgomery street, Room No. 3, San Francisco, Cal. je12

Silver Wave Mining Company, White Pine District, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of June, 1869, an assessment of twenty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary at his office, No. 418 California street.

Any stock upon which said assessment shall remain unpaid on the eighth day of July, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-eighth day of July, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, No. 418 California street, San Francisco. je12

Machinery.

VARNEY'S PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everre-quired repairs. The constant and increasing demand tar them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filted, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and com pletely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the office, **329** Fremont street,

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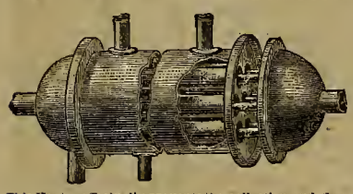

This Heater effectually prevents the collection and deposition of sediment in the boiler from impure water. From April 1, 1869, the Royalty on this Heater has been

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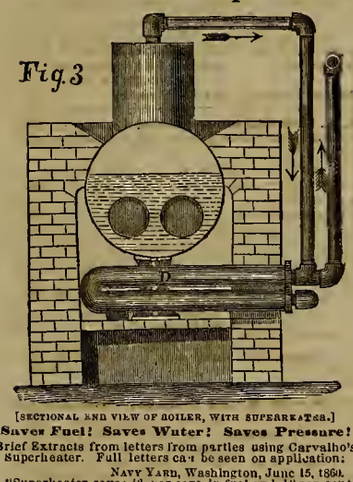
Fig. 3



[SECTIONAL AND VIEW OF BOILER, WITH SUPERHEATER.]

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Brief Extracts from letters from parties using Carvalho's Superheater. Full letters can be seen on application:

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"Superheater saves 12 per cent. in fuel and 10 per cent. more in speed of engine."

NAVY YARD, Washington, Oct. 8, 1867 (after *seven* years of service.)

"Superheater yet attached to boilers, and appears to be in good order."

HOWARD WATCH AND CLOCK CO., Boston, May 19, 1866.

"Superheater saves us at least 10 per cent. in fuel and gives a large increase of power."

JONES & SMITH, New York, March 21, 1867.

"Superheater saves 20 per cent. of coal, less steam pressure, exhaust more serviceable in drying paper."

STEAM ENGINE WORKS, Soutb Brooklyn, April 23, 1867.

"Superheater saves not less than 20 per cent. fuel; no priming!"

CROCKETT LEATHER CLOTH CO., Newark, N. J., Oct 16, '67.

"Superheater economizes 25 per cent fuel; does our work with 25 lbs. less pressure steam, and steam superior for drying purposes."

N. Y. DYEING & PRINTING ESTAB., Oct 4, 1867.

"Superheater brings contents of our dye vats to boiling point in one-third less time and one-third less increase of water; saves us at least 15 per cent. fuel."

CONTINUOUS OIL REFINING CO., Binghampton, N. Y., Sept. 20, 1867.

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"Superheater saves 15 or 20 per cent. fuel; steam for paper mill now perfectly pure and dry—an important advantage in our business."

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CANTRA COSTA LAUNDRY, Oakland, July, 1868

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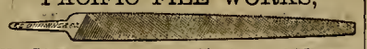

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6v16

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RAILROAD PROGRESS.

THE completion and inauguration of the Pacific Railroad appears to be attracting considerable attention in Europe—both among capitalists and men of small means.

With the latter the effect is to attract a still larger amount of attention to this continent, and especially toward its western shores. This interest is being manifested in an increased amount of emigration westward.

The attention of capitalists appears to be especially drawn to a more close consideration of the probable effect which this great national highway is to exert upon the future commerce of the world. The impression is already quite general that some decisive measures must be taken to improve present facilities, or the East India travel will entirely pass over this road, and probably take American shipping between this port and China and Japan. To obviate this, a railroad has already been projected to connect Calcutta or one of the Burmese ports, by rail, with the head of steam navigation on the great river of Southern China. Both the English and French are also looking to other roads across the continent to the south of Mexico. Baron Burleau, the French Minister to Peru, has just passed over the Pacific road, by order of Napoleon, to examine that work, and report to the Emperor his opinions upon its international importance. The French have in view the immediate construction of a road across some portion of Central America, the management of which shall be under the personal control of the Emperor or his private agent.

Work upon the various roads in this State is being diligently prosecuted. A large amount of railroad material has arrived at this port during the few days past, among which were two large and elegant locomotives for the Central Pacific.

NORTHERN PACIFIC.—Although but little is said about the Northern Pacific Railroad, there is every reason to believe that measures are in progress, which will soon enable those who now have that enterprise in hand to commence active operations upon it. A railroad running through so high a latitude would have great obstacles to encounter in the winter time, and it is questionable whether it could sustain itself, in competition with the existing road, and the one that is pretty certain to be built further south. However, these are days of wonderful conceptions, and the Northern Pacific Railroad may be regarded as a foregone conclusion.

SOUTHERN PACIFIC.—One hundred and fifty miles of the Memphis and El Paso Railroad, to connect ultimately with San Francisco, will be completed to Texas this summer. The iron has already been purchased, and will be on the ground in less than a month. Fremont has gone to Europe to raise funds for the completion of the road, and add another grand chain with which to link the East with the West.

CITY RAILROAD CONSOLIDATION.—Efforts are being made, in this city, to effect a consolidation of some or all of our city railroads. Several meetings, with this end in view, have been held the past week.

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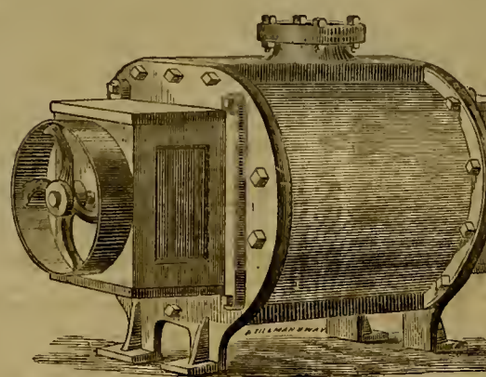

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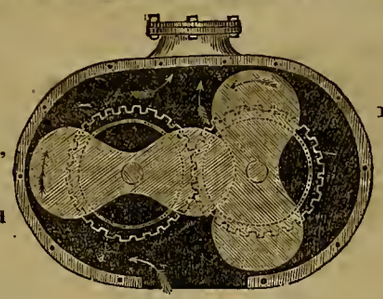

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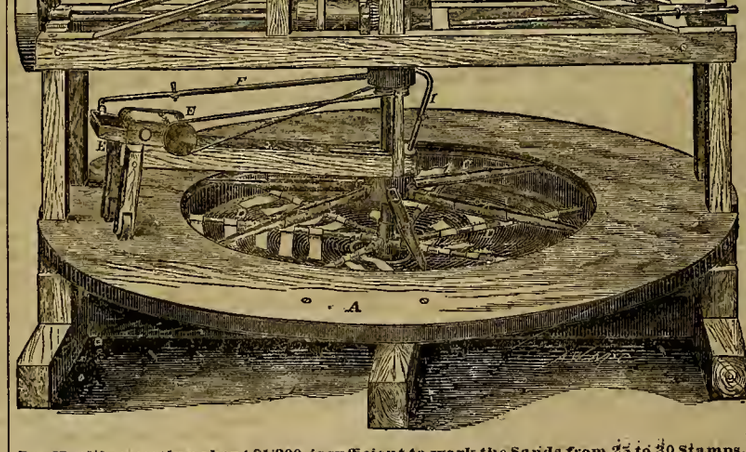

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13v16eow

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